Vol. I.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1912.

No. 722. 323

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, APPELLANT,

vs.

THE COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA, ET AL.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF CALIFORNIA.

FILED JULY 15, 1912.

(23,297)

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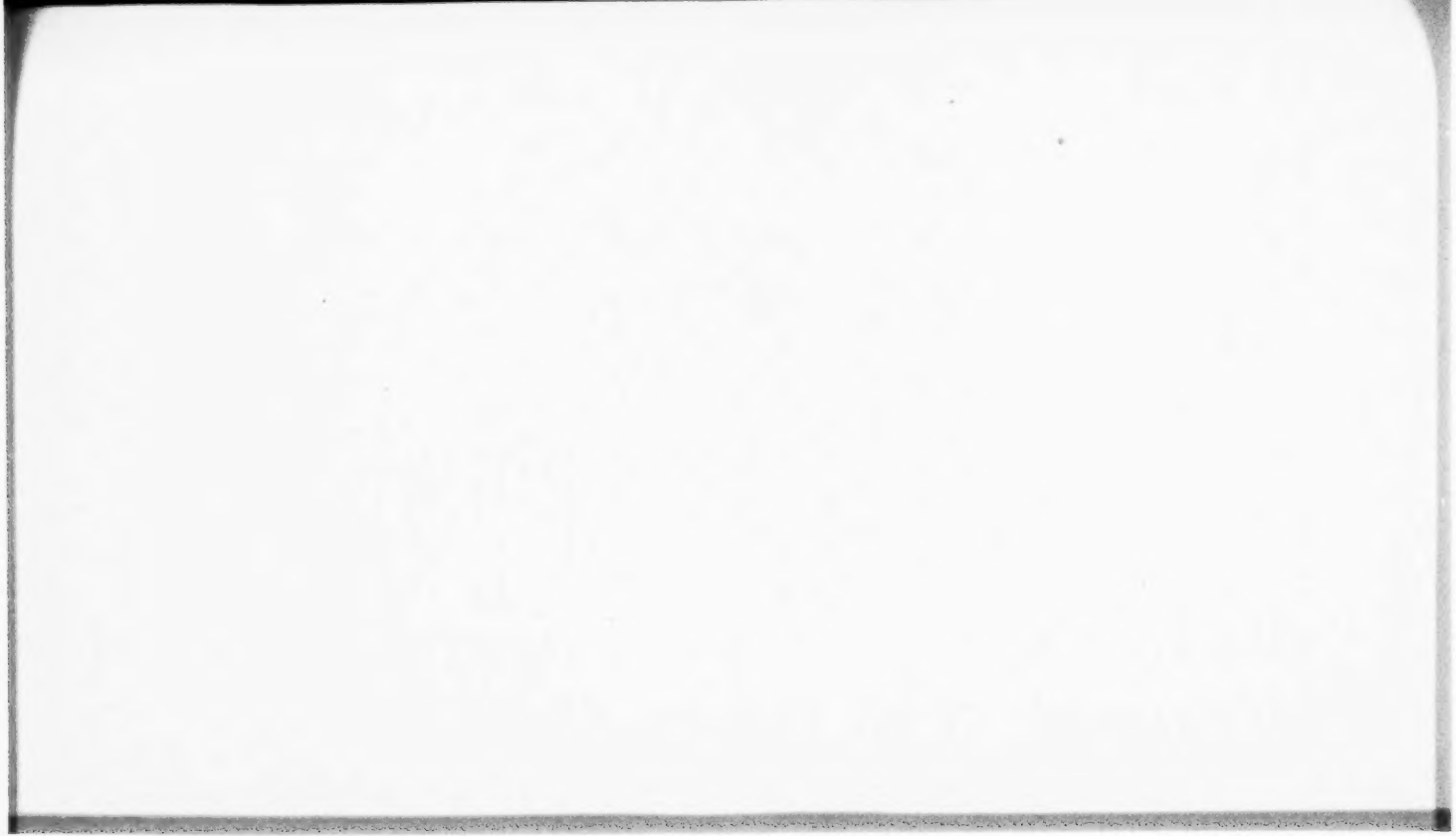
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1 In the Circuit Court of the United States for the Northern District of California. In Equity.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, Incorporated, Complainant.

vs.

THE COUNTY OF STANISLAUS, in the State of California, The Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting said Board of Supervisors of said County of Stanislaus; the County of Merced, in the State of California, the Board of Supervisors of said County of Merced James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting said Board of Supervisors of said County of Merced; and the County of Fresno, in the State of California, the Board of Supervisors of said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris Jorgensen, the Members of and Constituting said Board of Supervisors of said County of Fresno, Defendants.

Bill of Complaint.

To the Judges of the Circuit Court of the United States for the Northern District of California:

The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, a corporation formed, organized, and existing under the laws of the State of Nevada, and having its principal place of business at Carson City, Nevada, and a citizen of the State of Nevada, brings this its bill against the County of Stanislaus, a
2 political division of the State of California, and a body corporate of said State within the Northern District of California, and a citizen of the State of California, the Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the members of and constituting the said Board of Supervisors of said County of Stanislaus, each of whom is a citizen of the State of California, residing in said County of Stanislaus; and against the County of Merced, a political division of the State of California, and a body corporate of said State within the Southern District of California, and a citizen of the State of California, the Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the members of and constituting the said Board of Supervisors of said County of Merced, each of whom is a citizen of the State of California, residing in said County of Merced; and against the County of Fresno,

a political division of the State of California, and a body corporate of said State within the Southern District of California, and a citizen of the State of California, the Board of Supervisors of said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the members of and constituting the said Board of Supervisors of said County of Fresno, each of whom is a citizen of the State of California, residing in said County of Fresno; and thereupon your orator complains and says:

1. That the complainant is and has been ever since the first day of April, 1907, and was prior thereto, a corporation formed, organized, and existing under the laws of the State of Nevada, and has its principal place of business at Carson City, Nevada, and is a citizen of the State of Nevada.

2. That the defendant, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Stanislaus, in the State of California, and each of them is a citizen of the State of California, and resides in said County of Stanislaus and in the Northern District of California.

3. That the defendants, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Merced in the State of California, and each of them is a citizen of the State of California, and resides in said County of Merced and in the Southern District of California.

4. That the defendants, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Fresno in the State of California, and each of them is a citizen of the State of California, and resides in said County of Fresno and in the Southern District of California.

5. That the objects for which complainant was formed were the construction of canals in the State of California, leading from the San Joaquin and Kings Rivers, and their tributaries, also from Tulare Lake and streams flowing thereinto, and other waters, for the transportation of passengers and freights, and for the purpose of irrigation and water power, and for the conveyance of water for mining and manufacturing purposes, also, the supplying of cities and towns in the State of California, and the inhabitants of
3 such cities and towns with pure and fresh water, and also the buying and selling of real estate.

6. That, ever since its incorporation, and for more than one year last past, the complainant has been engaged, and is still engaged, in the business of appropriating water for irrigation, sale, rental, and distribution, and selling and distributing the same for hire, but not to any city or town or the inhabitants thereof; and it does now own and maintain, and has continuously, for more than one year last past, owned and maintained, a system of canals and works

for the diversion, carrying, and distributing of said water; which canals and works head on the San Joaquin River at its junction with Fresno Slough, in said County of Fresno, and thence run through said Counties of Fresno and Merced and to and into said County of Stanislaus; and, during all of said period, the complainant has been engaged, and is still engaged, in furnishing said water, through said canals, to the inhabitants of said Counties of Fresno, Merced, and Stanislaus, for irrigation, sale, rental, and distribution for hire.

7. That the complainant is the owner of said canals and works, all of which are, and have been for more than one year last past, actually used by complainant for, and are, and were during all of said time, useful to, the appropriation and furnishing of said water to the inhabitants of said counties, and are, and were during all of said time, of a value of more than one million, one hundred and thirty-two thousand, five hundred and fourteen dollars and eighty-five cents ($1,132,514.85).

8. That complainant is, and was for more than one year last past, also the owner of the right to divert from the said San Joaquin River and into its said canals not less than 760 cubic feet of water per second when there is so much water flowing in said river at complainant's headworks, and when less than that quantity is there flowing, then all the water there flowing in said river; and complainant is, and has been for more than one year last past, actually exercising said right, and actually diverting the water aforesaid and carrying the said water through its said canals to and into each of the counties aforesaid and selling and distributing the said water to the inhabitants of said counties for hire; and said right to divert said water and to sell and distribute the same is, and was during the whole of said time, the property of this complainant, and of the value of not less than $760,000, exclusive of and apart from the value of the canals and works aforesaid.

9. That the greatest area for the irrigation of which this complainant or its said predecessor has ever furnished or been called upon to furnish water in said counties is 103,980 acres, divided as follows: in said County of Fresno, 39,928 acres; in said County of Merced, 52,379 acres, and in said County of Stanislaus, 11,673 acres; and there is no reason to expect or believe that said areas or or either of them will or can be increased for several years.

10. That, in supplying water for the irrigation of said area of land, complainant's annual reasonable expenses, including the cost of repairs, management, and operating said canals and works, were, and will not be less than, the sum of $87,527.23; and the amount of such annual expenses cannot be materially reduced unless there should be a great reduction in the area so irrigated, nor, even then, would the reduction in the amount of such expenses be nearly as much in proportion to the reduction in the area irrigated.

11. That the complainant is now, and has been for more
4 than one year last past, in the possession of and is and will be able to furnish, at the head of its said system of canals, 760 cubic feet of water per second; but, owing to the necessary evaporation and seepage of water in said canals, twelve hundred

and forty-three ten thousandths (0.1243) of said water is lost in delivering the same in said County of Fresno, three hundred and thirty-nine thousandths (0.339) of said water is lost in delivering the same in said County of Merced, and fifty-three hundred and sixty-seven ten thousandths (0.5367) of said water is lost in delivering the same in said County of Stanislaus.

12. That, on the 14th day of June, 1905, and, for more than thirty years next preceding that date, the canals, works, rights, and property aforesaid were owned by and were the property of "The San Joaquin and Kings River Canal and Irrigation Company," which was a corporation formed, organized, and existing under the laws of the State of California; and, during all of said time, said last-named corporation was engaged in the business of appropriating the water aforesaid for irrigation, sale, rental, and distribution, and furnishing, selling, and distributing the same for hire to the inhabitants of the said Counties of Fresno, Merced, and Stanislaus, for irrigation and other purposes, but not to any city or town or the inhabitants thereof; and, for that purpose, it used and employed all of the canals, works, rights, and property aforesaid, and all of the same were useful for that purpose.

13. That, on the 12th day of March, 1885, the legislature of the State of California passed an act entitled "An act to regulate and control the sale, rental, and distribution of appropriated water in this State, other than in any city, city and county, or town therein, and to secure the rights of way for the conveyance of such water to the places of use"; and each and all of the acts and proceedings had and taken by the defendants, or either or any of them, and herein alleged, were had and taken by them and each of them under the assumed authority of, and in pretended compliance with, the aforesaid act of the legislature of the State of California.

14. That, on or about the 10th day of March, 1896, there was filed in the office of the Board of Supervisors of the said County of Stanislaus a petition signed by twenty-five persons claiming to be inhabitants and taxpayers of the said County of Stanislaus, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for the sale, rental, and distribution of said water to the inhabitants of the said County of Stanislaus.

15. That, on the 24th day of June, 1896, said petition came on to be heard before the said Board of Supervisors of the said County of Stanislaus; and the said board proceeded to and did, in pretended compliance with the said act of the legislature, estimate the value of the canals, ditches, and all other property actually used and useful to the appropriation and furnishing of said water, belonging to and possessed by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," at the sum of $337,000; which sum was then, and at all times since has been, very much less than the actual value of said property.

16. That, at the same time, the said board estimated the annual reasonable expenses of the said last-named corporation, including

the cost of repairs, management, and operating said works, to be the sum of $22,000; but the said annual reasonable expenses of the said last-named corporation and of this complainant have ever since exceeded that sum, and did, during the eight years next succeeding said hearing, amount on the average to twenty-nine thousand, three hundred and five dollars and sixty cents ($29,305.60).

17. That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Stanislaus did fix the following rates to be thereafter charged by said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," to the inhabitants of said County of Stanislaus, namely: For irrigating alfalfa, all perennial grasses, and all cereals, $1.50 per acre per annum; for irrigating trees and vines, $2.00 per acre per annum; for irrigating gardens, $3.50 per acre per annum; for water for sheep, hogs, or goats, $6.00 per thousand per month, and at the same rate per month for a less number; for water for horses, cattle, mules, and other live stock, $25.00 per thousand per month, and at the same rate per day for a less number.

18. That the said rates so attempted to be fixed by the said Board of Supervisors of the said County of Stanislaus in the year 1896 then were, and ever since have been, grossly unfair and unreasonable, and such that, if rates were fixed by the Boards of Supervisors of said Counties of Merced and Fresno in due proportion to the rates so fixed by said Board of Supervisors of said County of Stanislaus, the net annual receipts and profits thereof to the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," and to this complainant could not possibly amount to six per cent, nor to more than one and one quarter per cent, upon the value of said property actually used and useful to the appropriation and furnishing of said water.

19. That on or about the 18th day of May, 1904, there was filed in the office of the Board of Supervisors of the said County of Merced a petition signed by one hundred and forty-one persons claiming to be inhabitants and taxpayers of said County of Merced, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for the sale, rental, and distribution of said water to the inhabitants of the said County of Merced.

20. That, on the 20th day of June, 1904, said petition came on to be heard before the said Board of Supervisors of the said County of Merced; and the said board proceeded to, and did, in assumed compliance with the said act of the legislature, estimate the value of the canals, ditches, and all other property actually used and useful to the appropriation and furnishing of said water, belonging to and possessed by the said last-named corporation, at the sum of of $832,681.20; which sum was then, and at all times since has been, less than the actual value of said property.

21. That, at the same time, the said Board of Supervisors of the

said County of Merced estimated the annual reasonable expenses of the said last-named corporation, including the cost of repairs, management, and operating said works, to be the sum of $34,943.65; and the said annual reasonable expenses of the said last-named corporation were not less than that sum.

22. That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Merced did fix the following rate to be thereafter charged by the said
6 last-named corporation to the inhabitants of said County of Merced, namely; $1.08 per acre per annum for each and every kind of irrigation.

23. That, on or about the 27th day of May, 1904, there was filed in the office of the Board of Supervisors of the said Count of Fresno a petition signed by sixty persons claiming to be inhabitants and taxpayers of said County of Fresno, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said last-named corporation for the sale, rental, and distribution of said water to the inhabitants of said County of Fresno.

24. That, on the 29th day of June, 1904, said petition came on to be heard before the said Board of Supervisors of said County of Fresno; and the said board proceeded to, and did, in assumed compliance with the said act of the legislature, estimate the value of the canals, ditches, and all other property actually used and useful to the appropriation and furnishing of said water, belonging to and possessed by the said last-named corporation, at the sum of $832,-681.20; which sum was then, and at all times since has been, less than the actual value of said property.

25. That, at the same time, the said Board of Supervisors of said County of Fresno estimated the annual reasonable expenses of the said last-named corporation, including the cost of repairs, management, and operating of said works, to be the sum of $34,943.65; and the said annual reasonable expenses of the said last-named corporation were not less than that sum.

26. That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Fresno did fix the following rate to be thereafter charged by the said last-named corporation to the inhabitants of said County of Fresno, namely: 62½ cents per acre per annum for each and every kind of irrigation.

27. That the irrigation of alfalfa, perennial grasses, and cereals constituted at least 96/100 of all of the business of said last-named corporation, and constitutes at least 96/100 of all of the business of the complainant; and the furnishing of water by the said last-named corporation, and by complainant, for purposes other than irrigation, constitutes not more than 3/100 of said business.

28. That the rates so fixed in the years 1896 and 1904 by the said Boards of Supervisors of the said Counties of Stanislaus, Merced, and Fresno, taken as a whole, were and are grossly unfair and

unreasonable, and did not permit the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," and would not and could not permit this complainant to receive net annual receipts and profits in said business of six per cent upon the value of the said canals and other property so actually used by them respectively in, and useful to, the appropriation and furnishing of said water to the inhabitants of said counties, nor more than one per cent upon said value, nor any just or reasonable compensation for the services and necessary expenditures of either of them in appropriating and furnishing said water.

29. That thereafter, on the 14th day of June, 1905, the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for a valuable consideration, conveyed and transferred to this complainant all of the canals, works, and property aforesaid, and all of the water appropriated by said last-named corpo-
7 ration, and all its right to appropriate water, and all of its property and business; and this complainant, in consideration thereof, assumed all the obligations and liabilities of said last-named corporation; and said last-named corporation then ceased to conduct said business, and has never since conducted the same; and this complainant then became, ever since has been, and now is, the successor of said last-named corporation, and has solely conducted and is conducting the business aforesaid.

30. That thereafter, on the 1st day of April, 1907, the complainant filed in the office of the Board of Supervisors of said County of Stanislaus its written petition, praying that said board should proceed anew to fix and establish the water rates for complainant in said County of Stanislaus in the same manner as if such rates had not been previously established.

31. That thereupon the Clerk of said board did immediately cause said petition, together with a notice of the time and place of the hearing thereof, to be published, and the same was published, in a newspaper published in said County of Stanislaus, for four weeks next before the hearing of said petition by said board; which notice specified, for the hearing of said petition, the 14th day of May, 1907, which was a day of the then next regular term of the session of the said board, and which was more than thirty days after the first publication of said petition and notice.

32. That thereafter, on the said 14th day of May, 1907, the said petition came on regularly to be heard before said board; whereupon said board, after partially hearing the same, continued the said hearing from time to time until the 25th day of June, 1907, on which date said hearing was completed.

33. That thereupon, on said 25th day of June, 1907, the said Board of Supervisors of said County of Stanislaus proceeded to and did, in assumed compliance with said act of the legislature, estimate the value of the canals, ditches, flumes, and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of said County of Stanislaus, to be the sum of $335,456.32.

34. That, at the same time, and by the same order, the said

Board of Supervisors of the said County of Stanislaus estimated the annual reasonable expenses of this complainant, including the cost of repairs, management, and operating said works, so far as relates to said County of Stanislaus, to be the sum of $35,000.

35. That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Stanislaus did fix the following as the maximum rate to be, from and after the first day of July, 1907, charged by this complainant to the inhabitants of said County of Stanislaus, namely: one dollar and fifty cents ($1.50) per acre per annum for each and every kind of irrigation; which order, and the rate assumed to be fixed thereby, have never since been altered or repealed by the Board of Supervisors of said County of Stanislaus.

36. That the said rate so attempted to be fixed by the said Board of Supervisors of said County of Stanislaus in the year 1907 then was, and ever since has been, grossly unfair and unreasonable, and such that the net annual receipts and profits thereof to the complainant from water furnished to the inhabitants of the said
8 County of Stanislaus cannot possibly amount to six per cent, nor to any per cent, upon the amount so estimated by said board to be the value of complainant's said property actually used and useful to the appropriation and furnishing of said water to the inhabitants of said County of Stanislaus, and would not even repay to complainant one half of its said annual reasonable expenses as estimated by said board, nor would it nor could it allow or permit the complainant to receive any just or reasonable compensation for the property used by the complainant for, and useful to, the furnishing of water to the inhabitants of said county.

37. That, on the 2d day of April, 1907, the complainant filed in the office of the Board of Supervisors of said County of Merced its written petition, praying that said board should proceed anew to fix and establish the water rates for complainant in said County of Merced in the same manner as if such rates had not been previously established.

38. That thereupon the Clerk of said board did immediately cause said petition, together with a notice of the time and place of the hearing thereof, to be published, and the same was published, in a newspaper published in said County of Merced, for four weeks next before the hearing of said petition by said board; which notice specified, for the hearing of said petition, the 7th day of May, 1907, which was a day of the then next regular term of the session of the said board, and which was more than thirty days after the first publication of said petition and notice.

39. That thereafter, on the said 7th day of May, 1907, the said petition came on regularly to be heard before said board, and the same was so heard; and thereupon, on said 7th day of May, 1907, the said Board of Supervisors of said County of Merced proceeded to and did, in assumed compliance with said act of the legislature, estimate the value of the canals, ditches, flumes, and all other property actually used by complainant and useful to the appropriation

and furnishing of its appropriated water to the inhabitants of said County of Merced, to be the sum of $750,000.

40. That, at the same time and by the same order, the said Board of Supervisors of the said County of Merced estimated the annual reasonable expenses of this complainant, including the cost of repairs, management, and operating said works, so far as relates to said County of Merced, to be the sum of $37,000.

41. That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Merced did fix the following as the maximum rate to be, from and after the first day of July, 1907, charged by this complainant to the inhabitants of said County of Merced, namely: one dollar and sixty-five cents ($1.65) per acre per annum for each and every kind of irrigation; which order, and the rate assumed to be fixed thereby, have never since been altered or repealed by the Board of Supervisors of said County of Merced.

42. That the said rate so attempted to be fixed by the said Board of Supervisors of said County of Merced in the year 1907 then was, and ever since has been, grossly unfair and unreasonable, and such that the net annual receipts and profits thereof to the complainant from water furnished by it to the inhabitants of said county cannot possibly amount to six per cent upon the value of complainant's said property so actually used by it for, and useful to, the appropriation and furnishing of said water to the inhabitants of said county, nor would it nor could it allow or permit the complainant to
9 receive any just or reasonable compensation for the property used by the complainant for, and useful to, the furnishing of water to the inhabitants of said county.

43. That, on the 3d day of April, 1907, the complainant filed in the office of the Board of Supervisors of said County of Fresno its written petition praying that said board should proceed anew to fix and establish the water rates for complainant in said County of Fresno in the same manner as if such rates had not been previously established.

44. That thereupon the Clerk of said board did immediately cause said petition, together with a notice of the time and place of the hearing thereof, to be published, and the same was published, in a newspaper published in said County of Fresno, for four weeks next before the hearing of said petition by said board; which notice specified, for the hearing of said petition, the 10th day of May, 1907, which was a day of the then next regular term of the session of the said board, and which was more than thirty days after the first publication of said petition and notice.

45. That thereafter, on the said 10th day of May, 1907, the said petition came on regularly to be heard before said board; whereupon said board, after hearing the same, took the said matter under advisement until the 16th day of May, 1907.

46. That thereafter, on said 16th day of May, 1907, the said Board of Supervisors of said County of Fresno proceeded to and did, in assumed compliance with said act of the legislature, estimate the

value of the canals, ditches, flumes, and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of said County of Fresno, to be the sum of $116,250.

47. That, at the same time and by the same order, the said Board of Supervisors of the said County of Fresno estimated the annual reasonable expenses of this complainant, including the cost of repairs, management, and operating said works, so far as relates to said County of Fresno, to be the sum of $21,750.

48. That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Fresno did fix the following as the maximum rate to be, from and after the first day of July, 1907, charged by this complainant to the inhabitants of said County of Fresno, namely: eighty-five cents ($0.85) per acre per annum for each and every kind of irrigation; which order, and the rate assumed to be fixed thereby, have never since been altered or repealed by the Board of Supervisors of said County of Fresno.

49. That the said rate so attempted to be fixed by the said Board of Supervisors of said County of Fresno in the year 1907 then was, and ever since has been, grossly unfair and unreasonable, and such that the net annual receipts and profits thereof to the complainant from water furnished by it to the inhabitants of said county cannot possibly amount to six per cent upon the value of complainant's said property so actually used by it for, and useful to, the appropriation and furnishing of said water to the inhabitants of said county, nor would it nor could it allow or permit the complainant to receive any just or reasonable compensation for the property used by the complainant for, and useful to, the furnishing of water to the inhabitants of said county.

50. That the rates so fixed in the year 1907 by the said Boards of Supervisors of the said Counties of Stanislaus, Merced, and Fresno, taken as a whole, are grossly unfair and unreasonable, and will not and cannot insure to this complainant or permit it to receive net annual receipts and profits in said business of six per cent upon the amounts so estimated by said boards to be the value of complainant's said property actually used and useful to the appropriation and furnishing of said water to the inhabitants of said counties, nor more than three and sixty-seven hundredths (3.67) per cent upon said estimated value, nor more than two and thirty-three hundredths (2.33) per cent upon the real value of said property, nor any just or reasonable compensation for its services and necessary expenditures in appropriating and furnishing said water to the inhabitants of said counties.

51. That the lowest current rate of net income in the State of California upon investments of like magnitude, is, and has been for more than one year last past, and, as complainant believes, will be for several years to come, more than six per cent per annum; and no less a rate of net income upon the actual value of the property so used by complainant, and useful in appropriating and furnishing

said water to the inhabitants of said counties, would be a reasonable or just compensation to this complainant for its services and necessary expenditures aforesaid.

52. That the portions of said three counties through which complainant's said canals run are of an extremely arid nature, and such that agriculture cannot be profitably carried on without artificial irrigation; and said territory is such that water can be brought thereon by canals without any unusual expense. That the cost of constructing and operating the said canals and works of complainant is not unusually great, and does not exceed the amount usual in other parts of the State of California where irrigation is practiced; and said canals and works are reasonably proportioned to the area of land in said territory which requires irrigation and which the owners thereof desire to irrigate, and said canals and works are not greater or more extensive than is necessary for that purpose; and there is no fact, circumstance, or condition which would make unequal, unreasonable, or unjust to the inhabitants of said counties or any of them, rates which would enable the complainant to receive net annual receipts and profits of more than six per cent upon the actual present value of the said canals and other property so used by complainant for, and useful to, the appropriation and furnishing of said water to the inhabitants of said counties, and much more than six per cent upon the value of said property as so estimated by said boards of supervisors; but, on the contrary, the said inhabitants, paying for said water at rates which would so enable the complainant to receive such annual net income of six per cent, could and would realize annual net profits in the cultivation of their lands much exceeding six per cent upon the amount invested by them therein.

53. That, in fixing said rates so that the same do not secure or afford to this complainant, nor permit it to receive, any fair, just, reasonable, or equitable return upon the value of its said property so devoted to the said public use, the said Board of Supervisors, by their said order, if relief against the same be not afforded by this Honorable Court, will effect a deprivation of the property of this complainant without due process of law, and the same will be a denial to it of the equal protection of the law, which is guaranteed to this complainant by section one of article fourteen of the Constitution of the United States, and will take the complainant's property for public use without just compensation, in violation of section fourteen of article one of the Constitution of the State of California,—the protection of which sections this complainant does here and now invoke.

11 54. That unless immediate relief is granted against said orders, this complainant will be harassed by a multiplicity of actions to require and compel it to furnish its said water to inhabitants of said counties desiring to use the same, at said price so fixed by said Boards of Supervisors, which are, as aforesaid, grossly unfair and unreasonable, and which will not and cannot permit this complainant to receive any fair or just compensation for furnishing such water.

55. That the matter in dispute herein exceeds, exclusive of interest and costs, the value of five thousand dollars ($5,000).

And complainant alleges that all of the said acts, doings, and claims of the said defendants are contrary to equity and good conscience, and tend to the manifest wrong, injury, and oppression of your orator in the premises. In consideration whereof, and forasmuch as your orator is remediless in the premises at and by the strict rules of the common law, and can have relief only in a court of equity, where matters of this nature are properly cognizable and relievable, to the end, therefore, that the said complainant may have that relief which it can obtain only in a court of equity, and that the said defendants may answer the premises, but not upon oath or affirmation, the benefit whereof is expressly waived by the complainant, and that it be adjudged and decreed by this Court that the said orders of said Boards of Supervisors of the said Counties of Stanislaus, Merced, and Fresno deprive, and that each of them deprives, the complainant of its property without due process of law and without just compensation, and that the same are, and that each of them is, utterly null and void and of no effect in law, and that the defendants and each of them, their and each of their successors, agents, servants, and attorneys, and all persons acting with, by, through, or under them or either of them, or claiming by, through, or under said orders or either of them, be perpetually enjoined and restrained from publishing, promulgating, or attempting to put in force the said orders or either of them, and from enforcing or attempting to enforce or causing to be enforced the said orders or either of them, or any rate assumed to be fixed by said orders or either of them, and from bringing or prosecuting, or causing to be brought or prosecuted, or aiding in bringing or prosecuting, against this complainant or against any of its officers, agents, or servants, any action, suit, or proceeding, at law or in equity, to obtain or enforce any penalty or forfeiture, or to recover any damages, or for any other purpose, for or by reason of any refusal or failure to obey the said orders or either of them, or to compel this complainant to conform to the rates or any of the rates prescribed by the said orders or either of them, and from setting up or pleading, in any action, suit, or proceeding, the said orders or either of them as a cause of action or defense, or as part of any cause of action or defense, against this complainant or against any of its officers, agents, or servants, and from any attempt, direct or indirect, to compel this complainant to furnish any water at the rates or any rate prescribed by the said orders or either of them, and that the complainant may have such further or other relief as the nature of the case may require and to your Honors may seem meet.

May it please your Honors to grant unto the complainant a writ of subpœna to be directed to said defendants, The County of Stanislaus in the State of California, The Board of Supervisors of said County of Stanislaus, The County of Merced in the State of
12 California, The Board of Supervisors of said County of Merced, The County of Fresno in the State of California, The Board of Supervisors of said County of Fresno, Abram E. Clary,

Moses A. Lewis, James W. Davison, John J. McMahon, John Dunn, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, James W. Haley, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, commanding them and each of them, at a certain time and under a certain penalty therein to be limited, personally to appear before this Honorable Court, and then and there full, true, direct, and perfect answer make to all and singular the premises, and further, to stand to, perform, and abide such further or other direction and decree therein as to this Honorable Court shall seem meet.

And may it further please your Honors, until the final hearing and determination of this suit, and while the same is pending, to grant unto your orator a writ of injunction, pendente lite, issuing out of and under the seal of this Honorable Court, enjoining and restraining the said defendants and each of them, their and each of their successors, agents, servants, and attorneys, and all persons acting with, by, through, or under them or either of them, or claiming by, through, or under said orders or either of them, from committing all or any of the acts aforesaid, during the pendency of this suit and until the further order of this Court.

[CORPORATE SEAL.]

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, *Complainant,*
By HENRY MILLER, *President,*
C. Z. MERRITT, *Secretary.*

FRANK H. SHORT,
GARRET W. McENERNEY,
W. B. TREADWELL,
EDWARD F. TREADWELL,
Solicitors for Complainant.

UNITED STATES OF AMERICA,
Northern District of California, State of California, City and County of San Francisco, ss:

C. Z. Merritt, being duly sworn upon his oath, says that he is the Secretary of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, the complainant above named; that he has read the foregoing bill of complaint and knows the contents thereof; that the same is true of his own knowledge, except as to the matters therein stated upon information or belief; and that, as to those matters, he believes it to be true.

C. Z. MERRITT.

Subscribed and sworn to before me this 17th day of September, 1907.

[SEAL.]

M. V. COLLINS,
Notary Public in and for the City & County of San Francisco, State of California.

13 Endorsed: Filed Sep. 19, 1907, Southard Hoffman, Clerk, By W. B. Maling, Deputy Clerk.

Service of all papers in the above entitled suit, except writs and process, may be made on us at Room 1286 Flood Building, San Francisco, California.

FRANK H. SHORT,
GARRET W. McENERNEY,
W. B. TREADWELL,
EDWARD F. TREADWELL,
Solicitors for Complainants.

14 *Subpœna ad Respondendum.*

UNITED STATES OF AMERICA:

Circuit Court of the United States, Ninth Judicial Circuit, Northern District of California. In Equity.

The President of the United States of America, Greeting: To the County of Stanislaus in the State of California, The Board of Supervisors of said County of Stanislaus, The County of Merced in the State of California, The Board of Supervisors of said County of Merced, The County of Fresno in the State of California, The Board of Supervisors of said County of Fresno, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, John Dunn, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, James W. Haley, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen.

You Are Hereby Commanded, That you be and appear in said Circuit Court of the United States aforesaid, at the Court Room in San Francisco, on the 4th day of November A. D. 1907, to answer a Bill of Complaint exhibited against you in said Court by The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, which is a citizen of the State of Nevada and to do and receive what the said Court shall have considered in that behalf. And this you are not to omit, under the penalty of Five Thousand Dollars.

Witness, the Honorable Melville W. Fuller, Chief Justice of the United States, this 19th day of September in the year of our Lord one thousand nine hundred and seven and of our Independence the 132nd.

[SEAL.] SOUTHARD HOFFMAN, *Clerk.*
By W. B. MALING, *Deputy Clerk.*

15 *Memorandum Pursuant to Rule 12, Rules of Practice for the Courts of Equity of the United States.*

You Are Hereby Required to enter your appearance in the above suit, on or before the first Monday of November next, at the Clerk's

Office of said Court, pursuant to said Bill: otherwise the said Bill will be taken pro confesso.

[SEAL.] SOUTHARD HOFFMAN, *Clerk*,
By W. B. MALING, *Deputy Clerk*.

Return on Service of Writ.

UNITED STATES OF AMERICA,
Northern District of California, ss:

I Hereby certify and Return, that I received the within Writ on the 19th day of September 1907, and personally served the same on the County of Stanislaus in the State of California, on the 9th day of October 1907, by delivering to and leaving with Abram E. Clary, the Chairman of the Board of Supervisors of said County of Stanislaus in the State of California, one of the said Defendants named herein, personally, at Newman in the County of Stanislaus in said District, an Attested Copy thereof.

C. T. ELLIOTT,
United States Marshal.

San Francisco, California, October 10th, 1907.

16 *Return on Service of Writ.*

UNITED STATES OF AMERICA,
Northern District of California, ss:

I Hereby Certify and Return, that I received the within Writ on the 19th day of September 1907, and personally served the same on the 10th day of October 1907, on John McMahon, who is one of the Defendants and who is a member of the Board of Supervisors of said Stanislaus County, by delivering to and leaving with said John McMahon, one of the Defendants named herein, and a member of the Board of Supervisors of said County of Stanislaus, at Oakland, in Alameda County, in said District an Attested Copy thereof.

C. T. ELLIOTT,
United States Marshal.

San Francisco, California, October 10th, 1907.

Return on Service of Writ.

UNITED STATES OF AMERICA,
Northern District of California, ss:

I Hereby Certify and Return, that I received the within Writ on the 19th day of September 1907, and personally served the same on the 8th day of October 1907, on Moses A. Lewis, who is one of the Defendants and who is a member of the Board of Supervisors

of said Stanislaus County, by delivering to and leaving with said Moses A. Lewis, one of the Defendants named herein, and as a member of the Board of Supervisors of said County of Stanislaus, at Oakdale, in the County of Stanislaus, in said District, an Attested Copy thereof.

C. T. ELLIOTT,
United States Marshal.

San Francisco, California, October 10th, 1907.

17 *Return on Service of Writ.*

UNITED STATES OF AMERICA,
Northern District of California, ss:

I Hereby Certify and Return, that I received the within Writ on the 19th day of September 1907, and personally served the same on the 8th, day of October, 1907, on James W. Davison, who is one of the Defendants and who is a member of the Board of Supervisors of said Stanislaus County, by delivering to and leaving with said James W. Davison, one of the Defendants named herein, and as a member of the Board of Supervisors of said County of Stanislaus, at eleven miles east of Modesto, in the County of Stanislaus, in said District, an Attested Copy thereof.

C. T. ELLIOTT,
United States Marshal.

San Francisco, California, October 10, 1907.

Return on Service of Writ.

UNITED STATES OF AMERICA,
Northern District of California, ss:

I Hereby Certify and Return, that I received the within Writ on the 19th, day of September, 1907, and personally served the same on the 9th, day of October, 1907, on Abram E. Clary, who is one of the Defendants and who is a member of the Board of Supervisors of said Stanislaus County, by delivering to and leaving with said Abram E. Clary, one of the Defendants named herein, and as a member of the Board of Supervisors of said County of Stanislaus, at Newman, in said District, an Attested Copy thereof.

C. T. ELLIOTT,
United States Marshal.

San Francisco, California, October 10, 1907.

18 *Return on Service of Writ.*

UNITED STATES OF AMERICA,
Northern District of California, ss:

I Hereby Certify and Return, that I received the within Writ on the 19th, day of September, 1907, and personally served the same on

the 7th, day of October 1907, on John Dunn, who is one of the defendants and who is a member of the Board of Supervisors of said Stanislaus County, by delivering to and leaving with said John Dunn, one of the Defendants named herein, and as a member of the Board of Supervisors of said County of Stanislaus, at Modesto, in said District, an Attested Copy thereof.

C. T. ELLIOTT,
United States Marshal.

San Francisco, Cal., October 10th, 1907.

Endorsed: Filed Oct. 19th, 1907, Southard Hoffman, Clerk, By W. B. Maling, Deputy Clerk.

19 *Duplicate Subpœna ad Respondendum.*

(Duplicate under Sect. 740, R. S.)

UNITED STATES OF AMERICA:

Circuit Court of the United States, Ninth Judicial Circuit, Northern District of California. In Equity.

The President of the United States of America, Greeting: To The County of Stanislaus in the State of California, The Board of Supervisors of said County of Stanislaus, The County of Merced in the State of California, The Board of Supervisors of said County of Merced, The County of Fresno in the State of California, The Board of Supervisors of said County of Fresno, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, John Dunn, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, James W. Haley, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen.

You Are Hereby Commanded, That you be and appear in said Circuit Court of the United States aforesaid, at the Court Room in San Francisco, on the 4th day of November A. D. 1907, to answer a Bill of Complaint exhibited against you in said Court by The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, which is a citizen of the State of Nevada and to do and receive what the said Court shall have considered in that behalf. And this you are not to omit, under the penalty of Five Thousand Dollars.

Witness, The Honorable Melville W. Fuller, Chief Justice of the United States, this 19th day of September in the year of our Lord one thousand nine hundred and seven and of our Independence the 132nd.

[SEAL.] SOUTHARD HOFFMAN, *Clerk*,
By W. B. MALING, *Deputy Clerk*.

20 *Memorandum Pursuant to Rule 12, Rules of Practice for the Courts of Equity of the United States.*

You Are Hereby Required to enter your appearance in the above suit, on or before the first Monday of November next, at the Clerk's Office of said Court, pursuant to said Bill: otherwise the said Bill will be taken pro confesso.

SOUTHARD HOFFMAN, *Clerk.*
By W. B. MALING, *Deputy Clerk.*

I hereby certify that the within is a true copy of a writ sued out of the U. S. Circuit Court for the Northern District of California, in which Court the Bill of Complaint in said suit was filed.

[SEAL.] SOUTHARD HOFFMAN, *Clerk.*
By W. B. MALING, *Deputy Clerk.*

21 Department of Justice, Office of the United States Marshal, Southern District of California.

FRESNO, CAL., *Oct. 13th,* 1907.

I hereby certify that I received the within Writ on the 5th day of Oct. 1907 and served the same personally on the 7-8-10-11-12 days of Oct. 1907 by delivering to and leaving with Geo. W. Beall, Chair. Board of Sup. Fresno, 10/7/07. Thos. Martin 10/7/07, Jas. B. Johnson 10/7/07, Chris Jorgensen 10/7/07, Geo. W. Beall 10/7/07, Wm. D. Mitchell 10/8/07, Harry Nelson 10/10/07, Chas. H. Deane 10/10/07, Jas. R. Baxter, Chair. Board of Sup. Merced 10/10/07, Jas. R. Baxter 10/10/07, Geo. H. Whitworth 10/11/07, Jas. W. Haley 10/12/07, a certified copy thereof personally at the Counties of Fresno and Merced.

Fresno, Oct. 13—1907.

LEO. V. YOUNGWORTH,
U. S. Marshal.
By JAS. P. COYLE, *Deputy.*

Endorsed: Filed Nov. 2d 1907. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

22 In the Circuit Court of the United States for the Northern District of California. In Equity.

No. 14554. In Equity.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, in the State of California, The Board of Supervisors of Said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting Said Board of Supervisors of Said County of Stanislaus; the County of Merced, in the State of California, the Board of Supervisors of Said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting Said Board of Supervisors of Said County of Merced; and the County of Fresno, in the State of California, the Board of Supervisors of Said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the Members of and Constituting Said Board of Supervisors of Said County of Fresno, Defendants.

Demurrer to Bill of Complaint.

To the Judges of the Circuit Court of the United States for the Northern District of California:

Now come these defendants, the County of Stanislaus, in the State of California, the Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the members of and constituting said Board of Supervisors of said County of Stanislaus, and, by protestation, not confessing or acknowledging all or any of the matters and things in complainant's bill to be true in such manner
23 and form as therein set forth and alleged, demur thereto, generally and specially, and for causes of demurrer show:

I.

That the said bill of complaint shows no equity, in that complainant has not in and by said bill made or stated any such causes as do or ought to entitle complainant to any such relief as is thereby sought and prayed for from or against these defendants or any of them.

II.

That the complainant has not as appears by the said bill, made out any title to the relief thereby prayed;

(1) In that it does not appear from said bill wherein said complainant is in any danger of being harassed by multiplicity of suits or deprived of its property without due process of law;

it not appearing in said bill that complainant has declined and refused to supply water to its customers at the fixed rates therein set forth, or that its customers have demanded the service and tendered in money the amounts at the rates established, or that the complainant is not supplying its customers with water under contracts with them, or that complainant has done or attempted to do any other thing or things in contravention of any water rates established by these defendants or any of them as set forth in said bill, whereby complainant's customers or any of them or any other person or persons have acquired or may acquire any right or rights of action against complainant by virtue of the Act of 1885, as set forth in said bill;

(2) In that it does not appear from said bill that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to
24 attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(3) In that it does not appear from said bill that complainant has good reason to believe that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(4) In that it does not appear from said bill that any person or persons whatsoever have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(5) In that it does not appear from said bill that complainant has good reason to believe that any person or *or* persons whatsoever have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(6) In that, by complainant's own showing in said bill, relief is sought against persons not parties to this suit, namely, all consumers of complainant's water in said counties of Stanislaus, Merced, and Fresno.

25 III.

That it appears from said bill that these defendants have no interest in the matters and things therein set forth;

(1) In that the acts of these defendants or any of them in establishing water rates as set forth in said bill are legislative in character and based upon the Act of 1885, set forth in said bill;

(2) In that it does not appear from said bill that these defend-

ants or any of them have exercised any functions in the premises other than legislative;

(3) In that it does not appear from said bill that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(4) In that it does not appear from said bill that complainant has good reason to believe that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law.

IV.

That there are not proper parties to the said bill;

(1) In that it appears from said bill that there are certain indispensable parties not joined as defendants therein, whose interests are affected and against whom relief is sought, namely, all consumers of complainants water in said counties of Stanislaus,
26 Merced, and Fresno; and said bill does not show a sufficient reason or any reason for not bringing said indispensable parties before the Court; nor does it appear from said bill that there is or are any person or persons, party or parties defendant to the said bill, who represents or represent, or has or have a common interest with the said indispensable parties therefrom omitted.

(2) In that it appears from said bill that there are certain necessary parties not joined as defendants therein, whose interests are affected and against whom relief is sought, namely, all consumers of complainant's water in said Counties of Stanislaus, Merced, and Fresno; and said bill does not show a sufficient reason or any reason for not bringing said necessary parties before the Court; nor does it appear from said bill that there is or are any person or persons, party or parties defendant to the said bill, who represents or represent, or has or have a common interest with the said necessary parties therefrom omitted.

Wherefore, and for divers other good causes of demurrer appearing in said bill, the defendants do demur thereto, and humbly demand the judgment of this Court whether they shall be compelled to make any further or other answer to the said bill, and pray to be hence dismissed with their costs and charges in this behalf most wrongfully sustained.

MADDUX & MADDUX,

Solicitors for the Defendants, the County of Stanislaus, the Board of Supervisors of Said County, Abram E. Clary, Moses A. Lewis, John J. McMahon, and John Dunn, the Members of and Constituting Said Board of Supervisors of Said County of Stanislaus.

We hereby certify that the foregoing demurrer is in our opinion well founded in point of law.

MADDUX & MADDUX,
Solicitors for Said Defendants.

27 STATE OF CALIFORNIA,
County of Stanislaus, ss:

Abram E. Clary, being duly sworn, deposes and says, that he is one of the members of the Board of Supervisors of the County of Stanislaus, one of the defendants in the above entitled proceeding; that the foregoing demurrer is not interposed for delay.

ABRAM E. CLARY.

Subscribed and sworn before me this 31st day of October A. D. 1907.

[SEAL.] J. N. STUHR,
Notary Public in and for the County of Stanislaus, State of California.

Due service of the within Demurrer to the Bill of Complaint and receipt of a true copy thereof is hereby admitted this 4th day of November, 1907.

MASTICK & PARTRIDGE,
W. B. TREADWELL,
Solicitors for Complainant.

Endorsed: Filed November 4, 1907, Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

28 In the Circuit Court of the United States for the Northern District of California. In Equity.

No. 14554. In Equity.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, in the State of California, THE BOARD of Supervisors of Said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting Said Board of Supervisors of Said County of Stanislaus; the County of Merced, in the State of California, the Board of Supervisors of Said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting Said Board of Supervisors of Said County of Merced; and the County of Fresno, in the State of California, the Board of Supervisors of Said County of Fresno, and George W. Beall, Thomas D. Mitchell, and Chris. Jorgensen, the Members of and Constituting Said Board of Supervisors of Said County of Fresno, Defendants.

Demurrer to Bill of Complaint.

To the Judges of the Circuit Court of the United States for the Northern District of California:

Now come these defendants, the County of Merced, in the State of California, the Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the members of and constituting said Board of Supervisors of said County of Merced, and, by protestation, not confessing or acknowledging all or any of the matters
29 and things in complainant's bill to be true in such manner and form as therein set forth and alleged, demur thereto, generally and specially, and for causes of demurrer show:

I.

That the said bill of complaint shows no equity, in that complainant has not in and by said bill made or stated any such cause or causes as do or ought to entitle complainant to any such relief as is thereby sought and prayed for from or against these defendants or any of them.

II.

That the complainant has not, as appears by the said bill, made out any title to the relief thereby prayed;

(1) In that it does not appear from said bill wherein said complainant is in any danger of being harassed by multiplicity of suits or deprived of its property without due process of law; it not appearing in said bill that complainant has declined and refused to

supply water to its customers at the fixed rates therein set forth, or that its customers have demanded the service and tendered in money the amounts at the rates established, or that the complainant is not supplying its customers with water under contracts with them, or that complainant has done or attempted to do any other thing or things in contravention of any water rates established by these defendants or any of them as set forth in said bill, whereby complainant's customers or any of them or any other person or persons have acquired or may acquire any right or rights of action against complainant by virtue of the Act of 1885, set forth in said bill;

(2) In that it does not appear from said bill that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(3) In that it does not appear from said bill that complainant has good reason to believe that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(4) In that it does not appear from said bill that any person or persons whatsoever have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law;

(5) In that it does not appear from said bill that complainant has good reason to believe that any person or persons whatsoever have attempted, are attempting, are about to attempt, or appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus deprive complainant of its property without due process of law;

(6) In that, by complainant's own showing in said bill, relief is sought against persons not parties to this suit, namely, all consumers of complainant's water in said counties of Stanislaus, Merced, and Fresno.

III.

That it appears from said bill that these defendants have no interest in the matters and things therein set forth;

(1) In that the acts of these defendants or any of them in establishing water rates as set forth in said bill are legislative in character and based upon the Act of 1885, set forth in said bill;

(2) In that it does not appear from said bill that these defendants or any of them have exercised any functions in the premises other than legislative;

(3) In that it does not appear from said bill that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law:

(4) In that it does not appear from said bill that complainant has good reason to believe that these defendants or any of them have attempted, are attempting, are about to attempt, appear to be about to attempt, are threatening to attempt, or appear to be threatening or about to threaten to attempt to enforce the rates established as set forth in said bill and thus to deprive complainant of its property without due process of law.

IV.

That there are not proper parties to the said bill;

(1) In that it appears from said bill that there are certain indispensable parties not joined as defendants therein, whose interests are affected and against whom relief is sought, namely, all consumers of complainant's water in said counties of Stanislaus, Merced, and Fresno; and said bill does not show a sufficient
32 reason or any reason for not bringing said indispensable parties before the Court; nor does it appear from said bill that there is or are any person or persons, party or parties defendant to the said bill, who represents or represent, or has or have a common interest with the said indispensable parties therefrom omitted.

(2) In that it appears from said bill that there are certain necessary parties not joined as defendants therein, whose interests are affected and against whom relief is sought, namely, all consumers of complainant's water in said Counties of Stanislaus, Merced, and Fresno; and said bill does not show a sufficient reason or any reason for not bringing said necessary parties before the Court; nor does it appear from said bill that there is or are any person or persons, party or parties defendant to the said bill, who represents or represent, or has or have a common interest with the said necessary parties therefrom omitted.

Wherefore, and for divers other good causes of demurrer appearing in said bill, the defendants do demur thereto, and humbly demand the judgment of this Court whether they shall be compelled to make any further or other answer to the said bill, and pray to be hence dismissed with their costs and charges in this behalf most wrongfully sustained.

MADDUX & MADDUX,

Solicitors for the Defendants, the County of Merced, the Board of Supervisors of said County, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting said Board of Supervisors of said County of Merced.

We hereby certify that the foregoing demurrer is in our opinion well founded in point of law.

MADDUX & MADDUX,
Solicitors for said Defendants.

33 STATE OF CALIFORNIA,
County of Merced, ss:

Charles H. Deane, being duly sworn, exposes and says, that he is one of the members of the Board of Supervisors of the County of Merced, one of the defendants in the above entitled proceeding; that the foregoing demurrer is not interposed for delay.

C. H. DEANE.

Subscribed and sworn to before me this 30th day of October, A. D. 1907.

[SEAL.] H. S. SHAFFER,
Notary Public in and for the County of Merced, State of California.

Due service of the within Demurrer to the Bill of Complaint and receipt of a true copy thereof is hereby admitted this 4th day of November, 1907.

MASTICK & PARTRIDGE,
W. B. TREADWELL,
Solicitors for Complainant.

Endorsed: Filed November 4, 1907, Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

34 In the Circuit Court of the United States for the Northern District of California.

In Equity. No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Answer of Fresno County Defendants.

To the Judges of the Circuit Court of the United States for the Northern District of California:

The joint and several Answer of the County of Fresno, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell and Chris. Jorgensen, the members of and constituting the Board of Supervisors of said County of Fresno, to the Bill of Complaint of the above named complainant, make- allegations and denials as follows, to-wit:—

1. Allege that they are informed and believe that complainant herein is now and ever since the first day of April, 1907, and prior thereto was a corporation formed, organized and existing under the laws of the State of Nevada, having its principal place of business at Carson City, Nevada, and is a citizen of the State of Nevada, and that complainant has been engaged and is still engaged in the business of appropriating water for irrigation, sale, rental and distribution, and selling and distributing the same for hire, and does now own and maintain and has continuously for more than one year last past owned and maintained a system of canals and works for the diversion, carrying and distributing of said water; which
35 said canals and works head on the San Joaquin River at its junction with Fresno Slough in said County of Fresno, and thence runs through said Counties of Fresno and Merced and to and into said County of Stanislaus, and that during all of said period the complainant has been engaged and is still engaged in furnishing said water through said canals to the inhabitants of said Counties of Fresno, Merced and Stanislaus for irrigation, sale, rental and distribution for hire.

2. And do allege that they have no information or belief with reference to the allegations contained in paragraphs VII and VIII of complainant's Bill of Complaint, and basing their denial upon that ground, deny that said canals and works of complainant actually used during one year last past by complainant and useful to the appropriation and furnishing of said water to the inhabitants of said Counties are, or at any of said times were, of the value of one million one hundred thirty-two thousand five hundred fourteen and 85/100 (1,132,514.85) Dollars and deny that the said right of complainant to divert water from the San Joaquin River as aforesaid, is of the value of seven hundred sixty thousand (760,000) Dollars, exclusive of and apart from the value of the Canals and works aforesaid.

3. And said defendants do allege that they have no information or belief with reference to the allegations contained in paragraph X of complainant's bill of Complaint, and basing their denial upon that ground, deny that the annual reasonable expenses including the cost of repairs, management and operating said canals and works, were or will be the sum of eighty-seven thousand five hundred twenty-seven and 23/100 (87,527.25) Dollars.

4. These defendants allege that on the 16th. day of May, 1907, the said Board of Supervisors of the County of Fresno did in accordance with the Statutes of the State of California in such
36 cases made and provided, estimate the value of the Canals and ditches flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of said Fresno County, to be the sum of one hundred sixteen thousand two hundred fifty (116,250) Dollars, and at the same time did estimate the annual reasonable expenses of said complainant including the cost of repairs, management and operating said works so far as they relate to said Fresno County, to be the sum of twenty-one thousand seven hundred and

fifty (21,750) Dollars, and did at the same time, and after making the estimates as aforesaid, fix the following as the maximum rate to be from and after the first day of July, 1907, charged by said complainant to the inhabitants of said Fresno County, namely, eighty-five (85) cents per acre per annum for each and every kind of irrigation; that the said estimates and the rate fixed as above alleged, have never since been altered or repealed by the Board of Supervisors of the County of Fresno; and these defendants further allege that said rate so fixed by the Board of Supervisors of Fresno County in the year 1907, was then and ever since has been fair, reasonable and just, and such that the net annual receipts and profits thereof to the Complainant for water furnished by it to the inhabitants of said County, will amount to not less than six per cent upon the value of complainant's said property so actually used by it for and useful to the appropriation and furnishing of said water to the inhabitants of said County, and will allow complainant to receive a just and reasonable compensation for the property used by complainant for and useful to the furnishing of water to the inhabitants of said County.

5. These defendants further allege that the rates fixed by the Board of Supervisors of the Counties of Stanislaus, Merced
37 and Fresno taken as a whole, are fair and reasonable and will insure to said complainant and permit it to receive net annual receipts and profits of said business of more than six per cent upon the actual value of complainant's said property actually used and useful to the appropriation and furnishing of said water to the inhabitants of said Counties, and that the said rates taken as a whole are a just and reasonable compensation for the services and necessary expenditures of complainant in appropriating and furnishing said water to the inhabitants of said Counties.

6. These defendants deny that the rates so fixed by the Counties of Stanislaus, Merced and Fresno, taken as a whole, or in any wise whatsoever, prevent the said Complainant from receiving a fair, just, reasonable and equitable return upon the value of said property so devoted to said public use and deny that the orders of said Boards of Supervisors, or any of them, will deprive the said complainant of its property without due process of law, or deny said complainant of the equal protection of law as guaranteed by Section 1 of Article 14 of the Constitution of the United States, or otherwise, or at all, and deny that the enforcement of the rates fixed by the said Counties, will take the property of complainant for public use without just compensation in violation of Article 1 of the constitution of the State of California, or otherwise, or at all.

7. These defendants further deny that complainant will be harassed by a multiplicity of actions to require and compel it to furnish its said water to inhabitants of said Counties desiring to use the same at said rate so fixed by said Boards of Supervisers and deny that there is any necessity for immediate relief as alleged in Paragraph 54 of Complainant's Bill of Complaint, or otherwise, or at all.

38 Wherefore, these defendants having fully answered, confessed or denied all the matters in said Bill of Complaint material to be answered according to their best knowledge and belief, humbly pray this Honorable Court to enter its decree that these defendants respectively, be hence dismissed with their reasonable costs and charges in this behalf most wrongfully sustained.

COUNTY OF FRESNO,
By GEORGE W. BEALL,
Chairman of the Board of Supervisors of Fresno County.
By W. O. MILES,
County Clerk of Fresno County.
GEORGE W. BEALL.
THOMAS MARTIN.
JAMES B. JOHNSON.
WILLIAM D. MITCHELL.
CHRIS. JORGENSEN.
DENVER S. CHURCH AND
M. F. McCORMICK,
Solicitors for Fresno County Defendants.

Endorsed: Filed Decr. 2d, 1907. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

39 In the Circuit Court of the United States, Northern District of California. In Equity.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED, Complainant,
vs.
COUNTY OF STANISLAUS et al., Defendants.

Replication of the San Joaquin and Kings River Canal and Irrigation Company, Incorporated, to the Joint and Several Answers of the County of Fresno, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell and Chris. Jorgensen, the Members of and Constituting the Board of Supervisors of said County of Fresno.

This Replicant, the San Joaquin and Kings River Canal and Irrigation Company Incorporated, saving and reserving to itself all and all manner of advantages of exception which may be had and taken to the manifold errors, uncertainties and insufficiencies of the Answer of the Defendants, County of Fresno, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell and Chris. Jorgensen, for replication thereunto saith: That it doth and will aver, maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by the said Defendants, and that the answer of the said Defendants is very uncertain, evasive and insufficient in law to be replied unto by this Replicant; without that, that any other matter or thing in the said Answer contained material

or effectual in the law to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed or avoided, traversed or denied, is true; all which matters and things this
40 Replicant is ready to aver, maintain and prove as this Honorable Court shall direct and humbly prays as under and by its said bill it hath already pray-.

GARRET W. McENERNEY,
FRANK H. SHORT,
W. B. TREADWELL,
EDWARD F. TREADWELL,
Solicitors for Complainant.

Endorsed: Filed January 20, 1908. Southard Hoffman, Clerk. By J. Schaertzer, Deputy Clerk.

41 In the Circuit Court of the United States for the Northern District of California. In Equity.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, in the State of California, THE BOARD of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting the said Board of Supervisors of said County of Stanislaus; The County of Merced, in the State of California, The Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James H. Haley, the Members of and Constituting the said Board of Supervisors of said County of Merced; and The County of Fresno in the State of California, The Board of Supervisors of said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the Members of and Constituting said Board of Supervisors of said County of Fresno, Defendants.

Answer of County of Stanislaus.

Come now the Defendants, the County of Stanislaus, the Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, *H*ames W. Davison, John J. McMahon, and John Dunn, the members of and constituting the Board of Supervisors of said County of Stanislaus after the overruling of their demur- to the Bill of Complaint heretofore filed and without waiving their said demur-, or any of the manifold insufficiencies and defects of said Bill of Complaint, answer the Bill of Complaint as follows, namely:

42 1.

Defendants admit that the complainant is and has been ever since the first day of April, 1907, and was prior thereto, a corporation

formed, organized, and existing under the laws of the State of Nevada, and has its principal place of business at Carson City, Nevada, and is a citizen of the State of Nevada.

2.

Defendants admit that the defendants, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Stanislaus in the State of California, and each of them is a citizen of the State of California, and resides in said County of Stanislaus and in the Northern District of California.

3.

Defendants admit that the defendants, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Merced in the State of California and each of them is a citizen of the State of California, and resides in said County of Merced and in the Southern District of Colifornia.

4.

Defendants admit that the Defendants, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Fresno in the State of California, and each of
43 them is a citizen of the State of California, and resides in said County of Fresno and in the Southern District of California.

5.

Defendants admit that the objects for which complainant was formed were the construction of canals in the State of California, leading from the San Joaquin and Kings Rivers, and their tributaries, also from Tulare Lake and streams flowing thereinto, and other waters, for the transportation of passengers and freights, and for the purpose of irrigation and water power, and for the conveyance of water for mining and manufacturing purposes, also, the supplying of cities and towns in the State of California, and the inhabitants of such cities and towns with pure and fresh water, and also the buying and selling of real estate.

6.

Defendants admit that, ever since its incorporation, and for more than one year last past, the complainant has been engaged, and is still engaged, in the business of appropriating water for irrigation, sale, rental, and distribution, and selling and distributing the same for hire, but not to any city or town or the inhabitants thereof; and

it does now own and maintain, and has continuously, for more than one year last past, owned and maintained, a system of canals and works for the diversion, carrying, and distributing of said water, which canals and works head on the San Joaquin River at its junction with Fresno Slough, in said County of Fresno, and thence run through said Counties of Fresno and Merced and to and into said County of Stanislaus; and, during all of said period, the complainant has been engaged, and is still engaged, in furnishing said water, through said canals, to the inhabitants of said Counties of
44 Fresno, Merced, and Stanislaus, for irrigation, sale, rental, and distribution for hire.

7.

Defendants admit that the Complainant is the owner of the canals and works set out in said Bill of Complaint, and that the same have been for more than one year last passed actually used by Complainant for and are and were during all times mentioned useful to the appropriation and furnishing of water to the inhabitants of the County of Merced, Fresno and Stanislaus, but deny that they are or were, during all of said time, of the value of $1,132,514.85, or any other amount in excess of the sum of $335,456.32.

8.

Defendants admit that the Complainant is and was, for more than one year last past also the owner of the right to divert from the San Joaquin and any of its canals no less than 760 cubic ft. of water per second when there is so much water flowing into said river at complainants' headworks, and when less than that quantity is flowing, then all the water that is flowing in said river; and that complainant is, and has for more than one year last past, actually been exercising said right and actually diverting the water aforesaid and carrying the said water through its said canals to and into each of the aforesaid Counties and selling and distributing the said water to the inhabitants of the said Counties for hire, but denies that said right is, or was, during the whole of said time, or any time, the property of this complainant, or of the value of not less than $760,000.00, exclusive of and -part from the value of the canals and the works aforesaid. Denies that it is of the value of $760,000.00, or any other amount.

45 9.

Defendants admit that the greatest area for the irrigation of which this complainant or its said predecessor has ever furnished, or been called upon to furnish water in said Counties is 103,980 acres, divided as follows: in said County of Fresno, 39,928; in said County of Merced, 52,379 acres, and in the said County of Stanislaus, 11,673 acres, but denies that there is no reason to expect or believe that said areas or either of them will or can be increased for several years. Allege that said complainant has the water and capacity of canal, and is able to irrigate at least 500,000 acres of land in said Counties,

and that fully 500,000 acres of land lie along said canal and are capable of being irrigated from said canal.

10.

Defendants deny that in supplying water for the irrigation of said area of land set out in the said Bill of Complaint the annual reasonable expenses including the cost of repairs, management, and operating said canals and works, were, or will not be less than the sum of $87,527.23. Deny that the annual reasonable expenses including the cost of repairs, management and operating said canals and works were not or will be any greater sum than $30,225.00 per annum. Deny that the annual expenses including cost of repairs, management and operating said canals and works cannot be reduced unless there is a reduction in the area so irrigated.

11.

Defendants admit that the complainant is now, and has been for more than one year last past in the possession of, and will be able to furnish at the head of its said system of canals, 760 cubic ft. of water per second; but deny that on account of evaporation
46 and seepage, or evaporation or seepage in the water of said canals, twelve hundred and forty-three thousandths (0.1243) of said water is lost in delivering the same is said County of Fresno, three hundred and thirty-nine thousandths (0.339) of said water is lost in delivering the same is said County of Merced, and fifty-three hundred and sixty-seven ten thousandths (0.5367) of said water is lost in delivering the same in said County of Stanislaus. Deny that the loss of water in delivering the same from the Dam to the end in the County of Stanislaus would exceed 25% if the canal was in good condition and free from growths and breaks in the banks, and if the ranches of Miller and Lux did not take such a great portion of the water for other purposes than irrigation.

12.

Defendants admit that on the 14th day of June, 1905, and, for more than thirty years next preceding that date, the canals, works rights, and property aforesaid were owned by and were the property of "The San Joaquin and Kings River Canal and Irrigation Company", which was a corporation formed, organized, and existing under the laws of the State of California; and, during all of said time, said last-named corporation was engaged in the business of appropriating the water aforesaid for irrigation, sale, rental and distribution, and furnishing, selling and distributing the same for hire to the inhabitants of the said Counties of Fresno, Merced, and Stanislaus, for irrigation and other purposes, but not to any city or town or the inhabitants thereof; and, for that purpose, it used and employed all the canals, works, rights, and property aforesaid, and all of the same were useful for that purpose.

13.

Defendants admit that on the 12th day of March, 1885
47 the legislature of the State of California passed an act entitled "An Act to regulate and control the sale, rental, and distribution of appropriated water in this State, other than in any city, city or County, or town therein, and to secure the rights of way for the conveyance of such water to the places of use". Allege that said act was amended in 1887, and also in 1901 and allege that each and all of the acts and proceedings had and taken by defendants, or either or any of them, and each of them were, under the authority of, and in compliance with said Act and the amendments thereto of the legislature of the State of California.

14.

Defendants admit that on or about the 10th day of March, 1896, there was filed in the office of the Board of Supervisors of the said County of Stanislaus a petition signed by twenty-five persons claiming to be inhabitants and taxpayers of the said County of Stanislaus, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for the sale, rental, and distribution of said water to the inhabitants of the said County of Stanislaus.

15.

Defendants admit that on the 24th day of June, 1896, the said petition referred to in allegation No. fourteen in said Bill of Complainant, came on to be heard before the Board of Supervisors of the said County of Stanislaus. Defendants admit that said Board proceeded to, and did in compliance with the said Act of the legislature, estimate the value of the canals, ditches and all other property actually used and useful to the appropriation and furnishing of said water belonging to and possessed by the said corpora-
48 tion, "The San Joaquin and Kings River Canal and Irrigation Company", at the sum of $337,000.00; Deny that the said sum was then, or at any time since, has been very much, or any less than the actual value of the said property. Deny that the proceedings of said Board were in pretended compliance with the said Act of the legislature, but allege that it was in strict compliance with said Act. Allege that said corporation appeared with counsel at said hearing upon proper and sufficient notice of the hearing and took part in the proceedings. Allege that said amount was the value of said canal from, and including the Dam in the San Joaquin River to the end of the canal in Stanislaus County.

16.

Defendants admit that at the time the said Board of Supervisors estimated the annual reasonable expenses of the said last named corporation including the cost of repairs, management and operating

said canals and works to be the sum of $22,000.00, but deny that said annual reasonable expenses of the said last named corporation, or of this complainant have ever since exceeded that sum, or did, during the eight years next succeeding said hearing, amount on the average of twenty-nine thousand, three hundred and five dollars and sixty cents ($29,305.60) or any other amount in excess of the aforesaid amount fixed. Allege that said amount fixed was the expense of said system from and including the Dam in the San Joaquin River to the end in Stanislaus County.

17.

Defendants admit that at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Stanislaus did fix the following rates to be thereafter charged by said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," to the inhabitants of said
49 County of Stanislaus, namely: For irrigating alfalfa, all perennial grasses, and all cereals, $1.50 per acre per annum; for irrigating trees and vines, $2.00 per acre per annum; for irrigating gardens, $3.50 per acre per annum; for water for sheep, hogs, or goats, $6.00 per thousand per month, and at the same rate per month for a less number; for water for horses, cattle, mules, and other live stock, $25.00 per thousand per month, and *and* at the same rate per day for a less number.

18.

Defendants deny that the said rate so fixed by the Board of Supervisors of the said County of Stanislaus in the year 1896 then was or ever since has been grossly, or at all unfair or unreasonable, or that if rates were fixed by the Boards of Supervisors of the Counties of Merced, Fresno, in due proportion to the rates so fixed by the Board of Supervisors of the said County of Stanislaus, the net annual receipts and profits that were to the said corporation, "The Joaquin and Kings River Canal and Irrigation Company," could not possibly amount to six per cent, or to more than one quarter per cent upon the value of said property actually used and useful to the appropriation and furnishing of said water. Defendants allege that if said Counties of Merced and Fresno would fix their rates as the County of Stanislaus that the annual receipts and profits thereof to the said corporation would exceed the sum of 12%.

19.

Defendants admit that on or about the 18th day of May, 1904, there was filed in the office of the Board of Supervisors of the said County of Merced a petition signed by 141 persons claiming to be inhabitants and tax payers of the said County of Merced, wherein said Board of Supervisors was petitioned to regulate and
50 control the rates of compensation to be collected by the said corporation, "The San Joaquin and Kings River Canal and

Irrigation Company" for the sale, rental, and distribution of said water to the inhabitants of the said County of Merced.

20.

Defendants admit that on the 20th day of June, 1904 said petition came on to be heard before the said Board of Supervisors of the said County of Merced, but deny that said Board proceeded to and did in complaince with the said act of the legislature estimate the value of the canals, ditches and other property actually used and useful to the appropriation and furnishing of the said water belonging to the and possessed by the last named corporation, except as hereinafter stated. Admits that the said Board fixed the value thereof at the sum of $832,681.20. Defendants deny that said Board of Supervisors of said County of Merced, at said time estimated the value of said canals and ditches except upon the testimony of the engineer of the "San Joaquin and Kings River Canal and Irrigation Company." Deny that said Board of Supervisors had any engineer to estimate the value of said property, or accepted or received any testimony as to the value of said property except such as was furnished to said Board by said "San Joaquin and Kings River Canal and Irrigation Company". Defendants allege that said Board made no independent investigation of said value. Allege that the amount so fixed was the value thereof from and including the Dam in the San Joaquin River to the end in the County of Stanislaus.

21.

Defendants admit that at the same time the said Board of Supervisors of the said County of Merced fixed the annual reasonable expenses of said corporation including the cost or repairs, management and operating said works to be the sum of $34,943.65,
51 but deny that said amount was fixed by any independent investigation, or estimation made by said Board of Supervisors, or that they received any testimony as to the said annual reasonable expenses except such as was furnished to them by the "San Joaquin and Kings River Canal and Irrigation Company". Defendants deny that said amount of $34,943.65 was a reasonable annual expense of the said corporation and deny that any amount in excess of the sum of $30,225.00 was or is a reasonable amount for the annual expenses of said corporation. Allege that the amount fixed was the expense of said canal from and including the Dam in the San Joaquin River to the end of said canal in Stanislaus County.

22.

Defendants admit that at the same time and after making the alleged pretended estimates and in and by the same order in which said alleged pretended estimates were made the said Board of Supervisors of the said County of Merced did fix a rate of $1.08 per acre for each and every kind of irrigation in the said County of Merced. Allege that said corporation appeared with counsel before said Board and took part in the proceedings.

23.

Defendants admit that on or about the 27th day of May, 1904, there was filed in the office of the Board of Supervisors of the said County of Fresno, a petition signed by sixty persons claiming to be inhabitants and taxpayers of the said County of Fresno, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation for the sale, rental and distribution of water to the inhabitants of the said County of Fresno.

52

24.

Defendants admit that on the 29th day of June, 1904 said petition came on to be heard before the said Board of Supervisors of the said County of Fresno, and the said Board fixed the sum of $832,681.22 as the value of the canals, ditches and all other property actually used and useful to the appropriation and furnishing of said water belonging to and possessed by the said corporation, but deny that said Supervisors of said County of Fresno made any independent investigation as to the value of said property and canals and deny that they received any testimony upon which to base said value except such as was furnished to them by the said corporation. Defendants deny that the sum of $832,681.20 was then, or at any time since, or is now the value thereof. Deny the value thereof exceeded the, or does now exceed the sum of $335,-456.32. Allege that the amount so fixed was the value from and including the Dam in the San Joaquin River to the end in Stanislaus County.

25.

Defendants admit that at the same time the said Board of Supervisors of the said County of Fresno fixed the amount of $34,943.65 as the annual reasonable expenses of said corporation including the costs of repairs and management in operating said works, but deny that said annual reasonable expenses including the cost of repairs, management in operating said works, exceeded the sum of $30,-225.00. Deny that said Board of Supervisors, in making said alleged pretended estimate, made any independent investigation of said reasonable expenses, or received any testimony in regard to the value of the reasonable expenses except such as was furnished
53 to the Board of Supervisors by the said corporation. Allege that the amount so fixed was the annual expenses from and including the Dam in the San Joaquin River to the end in Stanislaus County.

26.

Defendants admit that at the time and after making the said alleged estimates, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Fresno did fix a rate to be thereafter charged by the said corporation to the inhabitants of the said County of Fresno at 62½¢ per acre for each and every kind of irrigation. Allege that the corporation with counsel appeared and took part in the fixing of the rates.

27.

Defendants admit that the irrigation of alfalfa, perennial grasses, and cereals constituted at least 96/100 of the business of the said corporation, and constitutes at least 96% of all the business of the complainant; and the furnishing of water by the last named corporation, and by complainant, for purposes other than irrigation, constitutes not more than 3/100 of the said business.

28.

Defendants deny that the rate so fixed in the years 1896 and 1904 by the said Board of Supervisors of the said County of Stanislaus, Merced and Fresno taken as a whole, were or are grossly or at all unfair or unreasonable, or did not permit the said corporation the "San Joaquin and Kings River Canal and Irrigation Company", or would not or could not permit this complainant to receive net annual receipts and profits in said business of 6% upon the value of said canals and other property so actually used by them respectively in, and useful to the appropriation and furnishing of
54 said water to the inhabitants of said Counties, now more than one per cent upon said value, nor any just or reasonable compensation for the services and necessary expenses of either of them in appropriating and furnishing said water. Defendants allege that the rate so fixed in the years 1896 and 1904 by the said Boards of Supervisors of the said Counties of Stanislaus, Merced and Fresno taken as a whole, were and are fair and reasonable and do permit the said corporation to receive more than eight per cent upon the value of said canals and other property so actually used by them in and useful to the appropriating and furnishing of water to the inhabitants of said Counties.

29.

Defendants admit that on the 14th day of June, 1905 the said corporation "The San Joaquin and Kings River Canal and Irrition Company" for a valuable consideration conveyed and transferred to this complainant all of the canals, works, and property aforesaid and all of the water appropriated by the last named corporation and all its rights to appropriating water and all of the property and business, and this complainant in consideration thereof assumed all the obligations and liabilities of said last-named corporation and said last-named corporation then ceased to conduct said business, and has never since conducted the same; and this complainant is and ever since has been the successor of said last named corporation, and has solely conducted and is conducting the business aforesaid.

30.

Defendants admit that on the first day of April, 1907 the complainant filed in the office of the Board of Supervisors of the said County of Stanislaus its written petition praying that the said Board should proceed anew to fix and establish the water rates for
55 complainant in the said County of Stanislaus in the same manner as if said rates had not been previously established.

31.

Defendants admit that thereupon the Clerk of said Board did immediately cause said petition together with a notice of the time and place of the hearing thereof, to be published, and the same was published, in a newspaper published in said County of Stanislaus for four weeks next before the hearing of said petition by said board; which notice specified for the hearing of said petition the 14th day of May, 1907 which was the date of the then next regular term of the session of said Board and which was more than thirty days after the thirty days fixed by the said petition and notice of the hearing of said petition and notice.

32.

Defendants admit that thereafter on the said 14th day of May, 1907 the said petition came on regularly to be heard by said Board. Whereupon said board after partially hearing the same, continued the said hearing from time to time until the 25th day of June, 1907, on which day said hearing was completed. Allege that complainant and its attorney appeared and produced and examined witnesses at the hearing and took part in the proceedings.

33.

Defendants admit that on the 25th day of June, 1907 the said Board of Supervisors of the said County of Stanislaus proceeded to and did in compliance with said Act of the legislature estimate the value of the canals, ditches, flumes and all other property actually used by the complainant and useful to the appropriating and furnishing of its appropriated waters to the inhabitants of said
56 County of Stanislaus to be the sum of $335,456.32. Allege that said amount was estimated by said Board to be the value of the canals, ditches, and flumes and all other property actually used by complainant and useful to the appropriating and furnishing of its appropriated water and including the head gate in the San Joaquin river in the County of Fresno and the canals running through the County of Fresno, and the County of Merced and in the County of Stanislaus. Defendants deny that said amount was fixed as the value of the canal in the County of Stanislaus. Defendants allege the value of the canal in Stanislaus County to be $40,000.00.

34.

Defendants admit that at the same time and by the same order the said Board of Supervisors of the said County of Stanislaus estimated the now reasonable expenses of this complainant including the cost of repairs, management and operating said works to be the sum of $35,000.00. Allege that the actual expenses was and is the sum of $30,225.00. Defendants allege said sum of $35,000 so fixed is the amount of the annual expenses for maintaining said canal, its flumes and ditches and appropriating the same from and including the Dam in the San Joaquin River in the County of Fresno, and the canals and works from said Dam through said County of Fresno, Merced County and to the end of canal in the County

of Stanislaus. Defendants deny that said $35,000.00 fixed as the annual cost of repairs and expenses relates to the said County of Stanislaus alone. Defendants allege that if the order signed by the Board reads that said $35,000.00 only applies to the County of Stanislaus and to the works and expenses of the canal within the said County of Stanislaus, that it is a mistake. Defendants allege
57 that the order signed by the Board of Supervisors was an order prepared by the Complainant in this case and if any such mistake was made it was at the instance of complainant. Defendants allege that the said actual expenses does not exceed $30,225.00.

35.

Defendants admit that at the same time and after making the estimates aforesaid and in and by the same order in which said estimates were made the said Board of Supervisors of the said County of Stanislaus did fix the following and maximum rate to be, from and after the first day of July, 1907 charged by this complainant to the inhabitants of the said County of Stanislaus to be $1.50 per acre for each and every kind of irrigation; which order, and the rate fixed thereby has never since been altered or repealed by the Board of Supervisors of the said County of Stanislaus.

36.

Defendants deny that said rate so fixed by the Board of Supervisors of the said County of Stanislaus in the year 1907, then was or ever since has been or is now grossly or at all unfair or unreasonable or such that the net annual receipts and profits thereof to the complainant for water furnished to the inhabitants of the said County of Stanislaus cannot possibly amount to 6%, nor to any per cent upon the amount so estimated by said Board to be the value of Complainant's said property actually used and useful in the appropriating and furnishing of said water to the inhabitants in the said County of Stanislaus or would not even repay to complainant one-half of its actual reasonable expenses so estimated by said Board, nor would it, nor could it allow to permit the complainant to receive any just and reasonable compensation for the water used by the complainant for and useful to the furnishing of water to the inhabitants of the said County. Defendants allege that at the rate
58 so fixed that the complainant will, does and should receive more than 12% upon the value of complainant's property actually used and useful to the appropriating and furnishing of water to the inhabitants of said County of Stanislaus.

37.

Defendants admit that on the second day of April, 1907 the complainant filed in the office of the Board of Supervisors of said County of Merced its written petition praying that said Board should proceed anew to fix and establish the water rates for complainant in said County of Merced in the same manner as if such rates had not been previously established.

38.

Defendants admit that thereupon the Clerk of said Board did immediately cause said petition together with a notice of the time and place of the hearing thereof, to be published, and the same was published in a newspaper published in the said County of Merced for four weeks next before the hearing of said petition before said Board, which notice published specified for the hearing of said petition the 7th day of May, 1907 which was the day of the then next regular term of the session of said Board, and which was more than 30 days after the first publication of the said petition and notice.

39.

Defendants admit that on the 7th day of May, 1907 the said petition came on regularly to be heard before said Board and the same was so heard, but deny that the said Board of Supervisors of the said Merced County employed any engineer to make any estimate of the value of the canals, ditches, flumes, and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of the said County of Merced. Deny that it made any independent in-
59 vestigation of the value thereof. Deny that any testimony was had or produced by the said Board except such as was produced by the complainant in this case. Defendants admit that the said Board fixed the value thereof at the sum of $750,000 but deny that the value of said canal used for the purpose of furnishing water to the inhabitants of Merced County, or the whole of said canal used for the furnishing of water to the inhabitants of Fresno County, Merced County, and Stanislaus County from and including the Dam in the San Joaquin River to the end of the canal in the County of Stanislaus, and the ditches flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the said inhabitants exceeded, on the 7th day of May, 1907 or thereafter the sum of $335,456.32. Defendants are informed and believe and so state the fact to be that complainant and its counsel appeared at said hearing and produced the only witnesses and examined the same; that no witnesses were examined in behalf or produced by the County.

40.

Defendants admit that at the same time, and by the same order, the Board of Supervisors of the said County of Merced fixed the annual reasonable expenses of this complainant, including the cost of repairs and management and operating said works at $37,000, but deny that said reasonable expenses was estimated by said Board from any testimony produced, or independent investigation made by said Board of Supervisors and deny that said Board received any testimony as to the annual reasonable expenses except what was produced by the complainant herein. Defendant- deny that the annual reasonable expenses of this complainant, including the cost of repairs, management and operating said works so far as relates to

the said County of Merced, or any so far as it relates to the
60 costs and expenses and repairs and management and operating of said works from and including the Dam in the San Joaquin river through the County of Fresno, County of Merced and to the end of the canal in the County of Stanislaus, exceeds the sum of $30,225.00.

41.

Defendants admit that at the same time and after making the alleged estimates aforesaid and in and by the same order in which said alleged estimates were made, that said Board of Supervisors of the said County of Merced did fix as a maximum rate to be, from and after the first day of July, 1907, charged by this complainant to the inhabitants of the said County of Merced, the sum of $1.65 per acre per annum for each and every kind of irrigation. Defendants admit that said order and the rate fixed thereby have never since been altered or repealed by the Board of Supervisors of the said County of Merced. Defendants deny that said rate so fixed should have exceeded the sum of $1.50 per acre. Deny that the said rate so fixed by the said Board of Supervisors of the said County of Merced in the year 1907 then was or ever since has been, or is now grossly or at all unfair or unreasonable, or such that the net annual receipts and profits thereof to the complainant for water furnished by it to the inhabitants of the said County of Merced cannot possibly amount to 6% upon the value of complainant's property so actually used by it for and useful to the appropriation and furnishing of said water to the inhabitants of said County. Nor would it, nor could it allow or permit the complainant to receive any just or reasonable compensation for the property used by the complainant for and useful to the furnishing of water to the inhabitants of said County at the rate so fixed taken in connection with the rates fixed by the other Counties, gives to the complainant a sum in excess of eight per cent upon the value of com-
61 plainant's said property so actually used by it for and useful to the appropriation and furnishing of said water to the inhabitants of the said County.

42.

Defendants admit that on the 3rd day of April, 1907, the complainant filed in the office of the Board of Supervisors in the County of Fresno, its written petition praying that said Board should proceed anew to fix and establish the water rates of complainant in the said County of Fresno in the same manner as if such rates had not been previously established.

43.

Defendants admit that thereupon the Clerk of said Board did immediately cause said petition, together with a notice of the time and place of the hearing thereof to be published and the same was published in a newspaper published in the said County of Fresno for four weeks next before the hearing of said petition before said

Board, which notice published specified for the hearing of said petition the 10th day of May, 1907, which was the day of the then next regular term of the session of said Board, and which was more than 30 days after the first publication of said notice.

44.

Defendants admit that thereafter on the 10th day of May, 1907 the said petition came on regularly to be heard before said Board, which said Board, after hearing the same, took the matter under advisement the 16th day of May, 1907.

45.

The Defendants admit that on the 16th day of May, 1907 said Board of Supervisors of the said County of Fresno proceeded to, and did fix the value of the canals, ditches, flumes and all other property actually used by complainant and useful to the ap-
62 propriation and furnishing of its appropriated waters to the inhabitants of the said County of Fresno, the sum to be $116,250.00. Defendants deny that in fixing said amount the Board of Supervisors of Fresno County made any estimate of the value thereof upon any independent investigation, or testimony produced by the said Board of Supervisors. Defendants deny that the said Board of Supervisors in fixing the value thereof heard any testimony except such as was furnished to the said Board by the complainant herein. Defendants deny that the value of the canals, ditches, flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated waters to the inhabitants of the said County of Fresno and the inhabitants of the County of Merced, and the inhabitants of the County of Stanislaus, from and including the Dam in the San Joaquin river where said canal is taken out through the Counties of Fresno, Merced and Stanislaus, is of a less value than $335,-456.32.

46.

Defendants admit that at the same time and by the same order the said Board of Supervisors of the said County of Fresno, fixed the annual reasonable expenses of this complainant including the cost of repairs, management and operation of said works, so far as relates to the said County of Fresno to be the sum of $21,750.00, but deny that at the hearing thereof the Board of Supervisors of the said County of Fresno, estimated the said annual reasonable expenses by any independent investigation, or by any testimony produced by said Board. Deny that said sum was fixed by any testimony before the Board except such as was produced by the complainant herein. Deny that the sum of $21,750.00 is or any other amount in excess of $9000.00 a reasonable amount of expenses for Fresno County alone.

63 47.

Defendants admit that at the same time, and after making the

alleged estimates aforesaid, and in and by the same order in which said alleged estimates were made, the said Board of Supervisors of the said County of Fresno did fix as the maximum rate to be from and after the first day of July, 1907 charged by this complainant to the inhabitants of the said County of Fresno, 85c per acre per annum for each and every kind of irrigation, which order and the rate so fixed thereby have never been altered or repealed by the Board of Supervisors of the said County of Fresno.

48.

Deny that the said rate so fixed by the said Board of Supervisors of the said County of Fresno in the year 1907, then was or ever since has been grossly or at all unfair or unreasonable, or such that the net annual receipts or profits thereof to the complainant from the water furnished by it to the inhabitants of said County cannot possibly amount to 6% upon the value of complainant's said property so actually used by it and useful to the appropriation and furnishing of said water to the inhabitants of said County. Now would, nor could it allow or permit the complainant to receive any just or reasonable compensation for the property used by the complainant and useful to the appropriation and furnishing of water to the inhabitants of said County. Defendants allege that the rate so fixed by the Board of Supervisors of the said County of Fresno and the rate fixed as aforesaid by the County of Merced and by the County of Stanislaus do permit the complainant to receive an amount in excess of eight per cent for the just and reasonable compensation for the property used by the complainant for and useful to the furnishing of said water to the inhabitants of the
64 said County, and the water appropriated for that purpose.

49.

Defendants deny that the rate so fixed in the year 1907 by the said Board of Supervisors of the said County of Stanislaus, Merced and Fresno, taken as a whole, are grossly, or at all unfair or unreasonable or will not or cannot insure to this Complainant, or permit it to receive net annual receipts and profits of said business a profit of 6%. Deny that the value of complainant's said property actually used, or useful to the appropriation and furnishing of said water to the inhabitants of said Counties will only produce 3.67 per cent upon the value of said property, not more than 2.33 per cent upon the real value of said property. Deny that complainant will not receive the just or reasonable compensation for its service and necessary expenditures in appropriating and furnishing said water to the inhabitants of said County. Allege that at the rate so fixed the complainant will receive far in excess of the sum of eight per cent per annum upon the real value of complainant- property as a just and reasonable compensation for its service and necessary expenditures in appropriating and furnishing water to the inhabitants of said Counties.

50.

Defendants deny that the lowest current rate of net income in the State of California upon investment of like magnitude is and has been for more than one year last past, or will be for several years to come, more than 6% per annum. Allege that any money investments in the State of California of like magnitude as that of the Complainant less than 6% and as much as four per cent is received upon the investment. Admit that no less rate than 6% net income upon the value of the property used by complain-
65 ant and useful to the appropriation and furnishing of said water to the inhabitants of said Counties would be a reasonable or just compensation to this complainant for services and necessary expenditures.

51.

Defendants deny that the portions of said three Counties through which the Complainants' canals run are of an extremely arid nature, or such that agriculture cannot be profitably carried on without artificial irrigation; admit that for the production of alfalfa, artificial irrigation is necessary in said sections. Allege that said sections produce grain without irrigation. Admit that said territory is such that water can be brought thereon with canals without any unusual expense. Admit that the cost of construction and operating said canals, and works of complainant is not unusually great and does not exceed the amount usual in other places of the State where irrigation is practiced. Admit that said canals and works are reasonable proportion to the area of land in said territory which requires irrigation and which the owners thereof desire to irrigate and said canals and works are no greater or more extensive than is necessary for that purpose, and there is no fact, circumstance or condition which would make unequal, unreasonable or unjust to the inhabitants of said County or any of them rates which would enable the complainant to receive any net annual receipts and profits of more than 6% upon the whole present value of said property and other property used by complainant for and useful to the appropriation and furnishing said water to the inhabitants of said County and much more than 6% upon the value of said property as so estimated by the said Boards of Supervisors. Deny the said inhabitants paying for said water rates which would so enable the com-
66 plainant to receive such annual net income of 6% could or would realize annual net profits in the cultivating of their lands much, or any amount exceeding 6% upon the amount invested by them therein. Defendants allege that the said complainant does and will receive a per cent. in excess of 12% upon the actual value of said canal and the property used in connection therewith to irrigate. Allege that the inhabitants as a whole will receive much less than said 12% upon the amount invested in lands irrigated from said system of complainant.

52.

The Defendants deny that in fixing said rates by said Boards does not secure or afford to this complainant or permit it to receive any fair, just, reasonable or equitable return upon the value of its said property so devoted to said public use. Deny that said orders, if relief against the same be not afforded by this Honorable Court, will effect a deprivation of the property of this complainant without due process of law, and the same will be a denial to it of the equal protection of the law, which is guaranteed to this complainant by section one of article fourteen of the Constitution of the United States, and will take the complainant's property for public use without just compensation in violation of section fourteen of article one of the Constitution of the State of California.

53.

Deny that unless immediate relief is granted against said orders this complainant will be harassed by a multiplicity of actions to require and compel it to furnish its said waters to the inhabitants of said Counties desiring to use the same, at said rates so fixed by said Boards of Supervisors. Deny that said rates as aforesaid are grossly or at all unfair or unreasonable or which will not, or cannot
67 permit this complainant to receive any fair or just compensation for furnishing water. Defendants allege that in the said County of Stanislaus the said Complainant has already filed 140 suits against the water consumers in said County to collect from said consumers the differences between $1.50 per acre fixed by the said Board and $2.35 per acre as claimed by the complainant. That said suits are still pending on demur-.

54.

Defendants admit that the matter in dispute herein exceeds, exclusive of interest and costs, the value of five thousand dollars ($5000).

54.

Deny that all or any of the said acts, doings, and claims of the said Defendants or any of them, are contrary to equity, or good conscience, or tend to the manifest wrong, injury and oppression of your orator in the premises.

55.

Wherefore these Defendants submit that they has a right to fix the rates of complainant at the amount so fixed and established by the order of June 26, 1896 of the Board of Supervisors of Stanislaus County, and by the order of June 25th 1907 of the Board of Supervisors of Stanislaus County, and also the orders made by said Board of Supervisors of the Counties of Fresno and Merced. That said ordinances and particularly the ordinances of the County of Stanislaus are not void or invalid and the same is not reviewable by any court; that the rates of complainant fixed thereby are fair, just and

reasonable both to complainant and to the inhabitants of said County of Stanislaus and the Counties of Merced and Fresno; that the complainant is not entitled to an injunction or any relief whatever herein, and that said Bill ought to be dismissed, with
68 costs.

THE COUNTY OF STANISLAUS AND
THE BOARD OF SUPERVISORS OF
THE COUNTY OF STANISLAUS,
By A. E. CLARY,
Chairman of the Board of Supervisors of the County of Stanislaus, and
S. B. MITCHELL,
Clerk of the Board of Supervisors of the County of Stanislaus.

[Seal Board of Supervisors of Co. of Stanislaus.]

A. E. CLARY.
M. A. LEWIS.
J. W. DAVISON.
JOHN DUNN.
J. J. McMAHON.

MADDUX & MADDUX,
Solicitors for Defendants, Modesto, California.

69 STATE OF CALIFORNIA,
County of Stanislaus, ss:

Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, being first duly sworn, depose and say, that they have read the foregoing answer and know the contents thereof, and that the same is true of their own knowledge, except as to the matters which are therein stated on information or belief, and as to those matters that they believe it to be true; and further, that deponent Abram E. Clary is, and for many years last past has been, chairman of the board of supervisors of the county of Stanislaus, that the seal attached to said answer is the seal of said county and of said board of supervisors, and was affixed by said Abram E. Clary to said answer and the name of said county and of said board of supervisors signed to said answer by him by authority of said board of supervisors.

A. E. CLARY.
M. A. LEWIS.
J. W. DAVISON.
JOHN DUNN.
J. J. McMAHON.

Subscribed and sworn to before me, this 14th day of April, 1908.

L. J. MADDUX,
Notary Public in and for the County of Stanislaus, State of California.

Due service and receipt of a copy of the within answer of County of Stanislaus to bill of complaint is hereby admitted this 15th day of April 1908.

FRANK H. SHORT,
GARRET W. McENERNEY,
EDWARD F. TREADWELL,
W. B. TREADWELL,
Solicitors for Complainant.

Endorsed: Filed Apr. 15, 1908. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

70 In the Circuit Court of the United States for the Northern District of California. In Equity.

No. 14,554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Answer of Merced County, Defendants.

To the Judges of the Circuit Court of the United States for the Northern District of California:

The joint and several answer of the County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the members of and constituting the Board of Supervisors of said County of Merced, now and at all times hereafter saving to themselves all and all manner of benefit or exception or otherwise that can or may be had or taken to the many errors, uncertainties and imperfections in the said Bill contained, for answer thereto, or to so much thereof as these defendants are advised it is material or necessary for them to make answer to, sveerally answering, say:

1. That they are informed and believe that complainant herein is now and ever since the 1st day of April, 1907, and prior thereto was a corporation formed and organized and existing under the laws of the State of Nevada, having its principal place of business at Carson City, Nevada, and is a citizen of the State of Nevada,

71 and that complainant has been engaged and is still engaged in the business of appropriating water for irrigation, sale, rental and distribution and selling and distributing the same for hire, and does now own and maintain and has continuously for more than one year prior to the commencement of this action owned and maintained a system of canals and works for the diversion, carrying and distributing of said water, which said canals and works head on the San Joaquin River at the junction with Fresno Slough in the County of Fresno, and thence run through the Coun-

ties of Fresno and Merced and into the County of Stanislaus, and that during all of said period the complainant has been engaged and is still engaged in furnishing said water through said canals to the inhabitants of said Counties of Fresno, Merced and Stanislaus for irrigation, sale, rental and distribution for hire.

2. That the defendants, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley are, and have been ever since and prior to the 1st day of April, 1907, the members of and constituting the Board of Supervisors of the County of Merced in the State of California.

3. These defendants respectively have no knowledge, information or belief of the matters alleged in paragraphs 7 and 8 in Complainant's Bill of Complaint sufficient to enable them or either of them to answer the same, and, basing their denial upon that ground, deny that said canals and works of complainant actually used during one year immediately preceding the commencement of this action by complainant and useful to the appropriation and furnishing of said water to the inhabitants of said Counties, are, or at any of said times were, of the value of One Million One Hundred Thirty-two Thousand Five Hundred Fourteen Dollars and Eighty-five Cents ($1,132,514.85) and deny that the said right of complainant to divert water from the San Joaquin River, as alleged
72 in said Complainant's Bill of Complaint, is of the value of Seven Hundred Sixty Thousand Dollars ($760,000.00), exclusive of and apart from the value of the canals and works aforesaid.

4. And these defendants respectively allege that they have no personal knowledge, information or belief with reference to the allegations contained in paragraph 10 of Complainant's Bill of Complaint sufficient to enable them or either of them to answer the same, and, basing their denial on that ground, deny that the annual reasonable expenses, including the cost of repairs, management and operating said canals and works, were or will be the sum of Eighty-seven Thousand Five Hundred Twenty-seven Dollars and Twenty-three Cents ($87,527.23).

5. These defendants allege that on the 7th day of May, 1907, the Board of Supervisors of the County of Merced did, in accordance with the Statutes of the State of California in such cases made and provided, estimate the value of canals and ditches, flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of said County of Merced to be the sum of Seven Hundred Fifty Thousand Dollars ($750,000.00) and, at the same time, said Board of Supervisors of said Merced County did estimate the annual reasonable expenses of said complainant, including the cost of repairs, management and operating said works, so far as they relate to said Merced County, to be the sum of Thirty-seven Thousand Dollars ($37,000.00), and the Board of Supervisors did at the same time and after making the estimates as aforesaid, fix the following as the maximum rate to be charged from and after the 1st day of July, 1907, by said complainant to the inhabitants of said

Merced County, namely, One Dollar and Sixty-five Cents
73 ($1.65) per acre per annum for each and every kind of irrigation; that the said estimates and the rate fixed as above have never since been altered or repealed by the Board of Supervisors of the County of Merced; these defendants respectivly allege that said rate so fixed by the Board of Supervisors of Merced County in the year 1907 as aforesaid was then and ever since has been fair; reasonable and just and such that the net annual receipts and proceeds thereof to the complainant for water furnished by it to the inhabitants of said Merced County will amount to not less than six per cent (6%) upon the value of complainant's said property, so actually used by it for and useful to the appropriation and furnishing of said water to the inhabitants of said County and will allow Complainant to receive a just and reasonable compensation for the property used by Complainant and useful to the furnishing of water to the inhabitants of said County of Merced.

6. These defendants, respectively, are informed and believe and therefore allege that on the 25th day of June, 1907, the Board of Supervisors of the County of Stanislaus did, in accordance with the statutes of the State of California in such cases made and provided, estimate the value of the canals and ditches, flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of said Stanislaus County to be the sum of Three Hundred Thirty-five Thousand Four Hundred Fifty-six Dollars and Thirty-two Cents ($335,456.32), and at the same time said Board of Supervisors of Stanislaus County did estimate the annual reasonable expenses of said complainant, including the cost of repairs, management and operating said works, so far as they relate to said Stanislaus County, to be the sum of Thirty-five Thousand Dollars ($35,000.00) and did at the same time and after making the estimates as aforesaid
74 fix the following as the maximum rate to be, from and after the 1st day of July, 1907, charged by said complainant to the inhabitants of said Stanilaus County, namely, $1.50 per acre per annum for each and every kind of irrigation; and these defendants respectively are informed and believe that said estimates and the rate fixed as above alleged have never been altered or repealed by said Board of Supervisors of the County of Stanislaus; that the said rate so fixed by the Board of Supervisors of Stanislaus County in the year 1907 was then, and ever since has been, fair and reasonable and just and such that the net annual receipts and profits thereof to the complainant and water furnished by it to the inhabitants of said County will amount to not less than six per cent (6%) upon the value of complainant's said property so actually used by it for and useful to the appropriation and furnishing of said water to the inhabitants of said County, and will allow complainant to receive a just and reasonable compensation for the property used by complainant for and useful to the furnishing of water to the inhabitan of said County of Stanislaus.

7. These defendants, respectively, are informed and believe and therefore allege that on the 16th day of May, 1907, the said Board

of Supervisors of the County of Fresno did, in accordance with the statutes of the State of California in such cases made and provided, estimate the value of canals and ditches, flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of Fresno County, to be the sum of One Hundred Sixteen Thousand Two Hundred Fifty Dollars ($116,250.00) and at the same time did estimate the annual reasonable expenses of said complainant, including the cost of repairs, management and operating
75 said works, so far as they relate to said Fresno County, to be the sum of Twenty-one Thousand Seven Hundred Fifty Dollars ($21,750.00), and did at the same time and after making the estimates as aforesaid fix the following as the maximum rate to be charged, from and after the 1st day of July, 1907, by said complainant to the inhabitants of said Fresno County, namely, $.85 per acre per annum for each and every kind of irrigation; that the said estimates and the rate fixed as above alleged have never since been altered or repealed by the Board of Supervisors of the County of Fresno; and these defendants, respectively, are informed and believe and therefore allege that said rate so fixed by the Board of Supervisors of Fresno County in the year 1907 was then, and ever since has been fair, reasonable and just and such that the net annual receipts and profits thereof to the complainant for water furnished by it to the inhabitants of said County will amount to not less than six per cent (6%) upon the value of complainant's said property so actually used by it for and useful to the appropriation and furnishing of said water to the inhabitants of said County, and will allow complainant to receive a just and reasonable compensation for the property used by complainant for and useful to the furnishing of water to the inhabitants of said County.

8. These defendants, respectively, allege that the rates fixed by the Boards of Supervisors of the Counties of Stanislaus, Merced and Fresno, taken as a whole, are fair and reasonable and will insure to said complainant and permit it to receive the net annual receipts and profits of said business of more than six per cent (6%) upon the actual value of complainant's said property actually used and useful to the appropriation and furnishing of said water to
76 the inhabitants of said Counties, and that said rates, taken as a whole, are a just and reasonable compensation for the services and necessary expenditures of complainant in appropriating and furnishing said water to the inhabitants of said Counties.

9. These defendants, respectively, deny that the said orders of the said Boards of Supervisors, or any of them, will deprive the said complainant of its property without due process of law, or deny said complainant of the equal protection of the law as guaranteed in Section 1 of Article 14 of the Constitution of the United States, or otherwise, or at all, and deny that the rates fixed by said Counties will take the property of said complainant for public use without just compensation in violation of Article 1 of the Constitution of the State of California, or otherwise, or at all.

10. These defendants further deny that complainant will be

harassed by a multiplicity of actions to require and compel said complainant to furnish its said water to the inhabitants of said Counties desiring to use the same at said rate, so fixed by said Boards of Supervisors, and deny that there is any necessity for immediate relief as alleged in paragraph 54 of complainant's Bill of Complaint, or otherwise, or at all.

Wherefore, these defendants having fully answered, confessed or denied all the matters in said Bill of Complaint material to be answered, according to their best knowledge and belief, humbly pray this Honorable Court to enter its Decree that these defendants respectively be dismissed with their reasonable costs and charges in this behalf most wrongfully sustained.

77 COUNTY OF MERCED,
By J. R. BAXTER,
Chairman of the Board of Supervisors of the County of Merced.
By P. J. THORNTON,
County Clerk and Ex-Officio Clerk of the Board of Supervisors of the County of Merced.

HENRY NELSON.
J. R. BAXTER.
C. H. DEANE.
GEO. H. WHITWORTH.
J. W. HALEY.

M. F. McCORMICK,
Solicitor for Merced County Defendants.
H. S. SHAFFER,
Of Counsel for Merced County of Defendants.

Endorsed: Filed June 8, 1908. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

78 In the Circuit Court of the United States, Northern District of California. In Equity.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, Incorporated, Complainant,
vs.
COUNTY OF STANISLAUS et al., Defendants.

Replication of the San Joaquin and Kings River Canal and Irrigation Company Incorporated to the Joint and Several Answer of the County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting the Board of Supervisors of said County of Merced.

This Replicant, the San Joaquin and Kings River Canal and Irrigation Company Incorporated, saving and reserving to itself all and all manner of advantages of exception which may be had and taken

to the manifold errors, uncertainties and insufficiencies of the Answer of the Defendants, County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the members of and constituting the Board of Supervisors of said County of Merced, for replication thereunto saith: That it doth and will aver, maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by the said Defendants, and that the answer of the said Defendants is very uncertain, evasive and insufficient in law to be replied unto by this Replicant; without that, that any other matter of thing in the said Answer contained material or effectual in the law to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed or avoided, traversed or denied, is true; all which mat-
79 ters and things this replicant is ready to aver, maintain and prove as this Honorable Court shall direct and humbly prays as under and by its said bill it hath already prayed.

GARRET W. McENERNEY,
FRANK H. SHORT,
W. B. TREADWELL,
EDWARD F. TREADWELL,
Solicitors for Complainant.

Endorsed: Filed June 19, 1908. Southard Hoffman, Clerk.

80 In the Circuit Court of the United States, Northern District of California. In Equity.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, Incorporated, Complainant,
vs.
COUNTY OF STANISLAUS et al., Defendants.

Replication of the San Joaquin and Kings River Canal and Irrigation Company Incorporated to the Joint and Several Answer of The County of Stanislaus in the State of California, The Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting said Board of Supervisors of said County of Stanislaus.

This Replicant, the San Joaquin and Kings River Canal and Irrigation Company, Incorporated, saving and reserving to itself all and all manner of advantages of exception which may be had and taken to the manifold errors, uncertainties and insufficiencies of the Answer of the Defendants, County of Stanislaus, in the State of California, The Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon and John Dunn, the members of and constituting said Board

of Supervisors of said County of Stanislaus, for replication thereunto saith: That it doth and will aver, maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by the said Defendants, and that the answer of the said Defendants is very uncertain, evasive and insufficient in law to be replied unto by this Replicant; without that, that any other matter or thing in the said Answer contained material or effectual in law to be
81 replied unto, and not herein and hereby well and sufficiently replied unto, confessed or avoided, traversed or denied, is true, all which matters and things this replicant is ready to aver, maintain and prove as this Honorable Court shall direct and humbly prays as under and by its said bill it hath already prayed.

———— ————,
Solicitors for Complainant.

Endorsed: Filed June 25, 1908. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

82 In the Circuit Court of the United States, Northern District of California. In Equity.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY INCORPORATED, Complainant,
vs.
COUNTY OF STANISLAUS et al., Defendants.

Replication of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, to the joint and several Answer of The County of Fresno, in the State of California, The Board of Supervisors of said County of Fresno, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the Members of and Constituting said Board of Supervisors of said County of Fresno.

This Replicant, the San Joaquin and Kings River Canal and Irrigation Company, Incorporated, saving and reserving to itself all and all manner of advantages of exception which may be had and taken to the manifold errors, uncertainties and insufficiencies of the Answer of the Defendants, County of Fresno, in the State of California, The Board of Supervisors of said County of Fresno, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the members of and constituting said Board of Supervisors of said County of Fresno, for replication thereunto saith: That it doth and will aver, maintain and prove its said bill to be true, certain and sufficient in the law to be answered unto by the said defendants, and that the answer of the said Defendants is very uncertain, evasive and insufficient in law to be replied unto by this Replicant; without that, that any other matter or thing in the said Answer contained material or effectual in the law to be replied

unto, and not herein and hereby well and sufficiently replied
83 unto, confessed or avoided, traversed or denied, is true; all which matters and things this replicant is ready to aver, maintain and prove as this Honorable Court shall direct and humbly prays as under and by its said bill it hath already prayed.

——— ———,
Solicitors for Complainant.

Endorsed: Filed June 25, 1908. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

84 In the Circuit Court of the United States of the Ninth Circuit in and for the Northern District of California.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED, Complainant,
vs.
COUNTY OF STANISLAUS et al., Defendants.

Stipulation for Reference to Master.

It is hereby stipulated by and between the parties to the above entitled cause that the issues in said cause may be referred to a Master, and Honorable E. H. Heacock, the Standing Master of this Court is hereby agreed upon as the Master to whom said cause may be referred.

GARRET W. McENERNEY,
FRANK H. SHORT,
W. B. TREADWELL,
EDWARD F. TREADWELL,
Solicitors for Complainant.
H. S. SHAFFER,
Of Counsel, and
M. F. McCORMICK,
Solicitor for Merced and Fresno Counties, Defendants.
L. J. MADDUX,
Solicitor for Stanislaus County, Defendant.

Endorsed: Filed August 19, 1908. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

85 In the Circuit Court of the United States of the Ninth Circuit in and for the Northern District of California.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

COUNTY OF STANISLAUS et al., Defendants.

Order of Reference.

Upon reading and filing the foregoing Stipulation it is ordered that the issues in said action be, and the same hereby are, referred to Honorable E. H. Heacock, Standing Master of this Court.

Dated August 19, 1908.

[SEAL.] SOUTHARD HOFFMAN,
Clerk of the Circuit Court of the United States, Northern District of California.

Endorsed: Filed August 19, 1908. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

86 In the Circuit Court of the United States for the Northern District of California. In Equity.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, in the State of California, et al., Defendants.

Master's Report.

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90 In the Circuit Court of the United States for the Northern District of California. In Equity.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA, et al., Defendants.

Master's Report.

To the Honorable Judges of the Circuit Court of the United States for the Northern District of California:

I, E. H. Heacock, the Standing Master in Chancery of the Court aforesaid, to whom, by an order of said Court made in the above-entitled cause on the 19th day of August, 1908, the issues therein were referred, respectfully report as follows:

The matters so referred were regularly brought on for hearing before me on the 12th day of October, 1908, at which time I commenced taking the testimony offered by the respective parties, which was taken down in shorthand by B. C. Brown and put into typewriting by him. E. F. Treadwell, Esq., appeared as solicitor on behalf of complainant, which was also represented of
91 record by Frank H. Short, Esq., Garret W. McEnerney, Esq., and W. B. Treadwell, Esq. M. F. McCormick, Esq., and H. S. Schaffer, Esq., appeared as solicitors for the counties of Fresno and Merced, and M. J. Maddux, Esq., and J. P. Langhorne, Esq., appeared as solicitors for the county of Stanislaus. The taking of the testimony was finally concluded on the 23d day of March, 1909, when the issues were submitted upon briefs, followed by oral arguments, which testimony, consisting of 973 pages, and the exhibits introduced in connection therewith, and the briefs and arguments, are filed herewith.

This is a suit in equity brought for the purpose of having certain water rates which have been fixed by the Boards of Supervisors of the counties of Stanislaus, Merced and Fresno, declared void, it being alleged in the bill of complaint that such rates and each of them are so low as to deprive complainant of its property without due process of law and without just compensation, and that the same are and each of them is utterly null and void. The bill of complaint was filed on the 19th day of September, 1907.

It appears from the evidence and admissions of the respective parties that the complainant is a corporation formed, organized and existing under the laws of the State of Nevada, and is the successor of a corporation of substantially the same name organized under the laws of the State of California, which former corporation for more than thirty years next preceding the 14th day of June, 1905, was engaged in furnishing water for irrigation, sale, rental and

distribution to the inhabitants of the counties of Fresno,
92 Merced and Stanislaus, and that on the said 14th day of June, 1905, for a valuable consideration, it transferred to the complainant all its canals, works and property, and all the water appropriated by its predecessor, and all its right to appropriate water, and all its property and business.

Complainant alleges that it owns and maintains a system of canals and works for the purpose of diverting, carrying and distributing water in the counties of Fresno, Merced and Stanislaus; that said canals and works head on the San Joaquin River at its junction with the Fresno Slough in the County of Fresno, and thence running through the counties of Fresno and Merced, enter and terminate in the county of Stanislaus; that it has the right to divert from the said San Joaquin River into said canals not less than 760 cubic feet of water per second, when there is so much water flowing into said river at complainant's headworks, and when less than that quantity is flowing therein, then all the water flowing in said river; that the said water is the property of the complainant and is of the value of not less than $760,000; that the canal and works used and useful to the appropriation and furnishing of water to the inhabitants of said counties are of the value of more than $1,132,514.85, and that the complainant's annual reasonable expenses, including the cost of repairs, management and operation of
93 said canals and works, were, and will not be less than the sum of $87,527.23.

The Boards of Supervisors of the several counties of the State are required under the Act of the Legislature of the State, approved March 12, 1885 (Stats. 1885, p. 95), to estimate as near as may be the value of the canals, ditches, flumes, waterways, and all other property actually used and useful in the appropriation and furnishing of water by persons, companies or corporations, for sale, rental or distribution to the inhabitants in the several counties of the State, and in like manner to estimate the annual reasonable expenses of such persons, companies or corporations, including the cost of repairs, management and operation of such works. Upon these estimates the Boards of Supervisors are authorized under Section 2 of said Act, to establish maximum rates at which water shall be sold, rented or distributed, which rates under Section 5 of said Act are required to produce a net income of not less than six nor more than eighteen per cent. per annum upon the value of the property used and useful in furnishing such water. It is further provided in Section 5 of said Act that in fixing said rates each of said Boards of Supervisors may likewise take into estimation any and all other facts, circumstances and conditions pertinent thereto, to the end and purpose that said rates shall be equal, reasonable and just, both to such persons, companies, associations and corporations, and to said inhabitants.

It is alleged in the pleadings, and it appears in evidence, that the Board of Supervisors of the county of Stanislaus on the 25th day of June, 1907, did fix the following as the maximum rate to be

from and after the 1st day of July, 1907, charged by the
94 complainant to the inhabitants of said county of Stanislaus, namely, $1.50 per acre per annum for each and every kind of irrigation; that the Board of Supervisors of the county of Merced did on the 7th day of May, 1907, fix the following as the maximum rate to be, from and after the 1st day of July, 1907, charged by the complainant to the inhabitants of said county of Merced, namely, $1.65 per acre per annum for each and every kind of irrigation; and that the Board of Supervisors of the county of Fresno did, on the 16th day of May, 1907, fix the following as the maximum rate to be, from and after the 1st day of July, 1907, charged by complainant to the inhabitants of said county of Fresno, namely, 85 cents per acre per annum for each and every kind of irrigation.

It is further alleged in the pleadings, and appears in evidence, that in the year 1896 the Board of Supervisors of the county of Stanislaus, and that in the year 1904 the Boards of Supervisors of the counties of Merced and Fresno fixed maximum rates which the complainant's predecessor should be permitted to charge for the sale, rental or distribution of water to the inhabitants of said counties respectively; and complainant alleges that the rates so fixed in 1896 and 1904, taken as a whole, were and are grossly unfair and unreasonable and would not and could not permit the complainant's predecessor nor the complainant to receive receipts and profits in said business of six per cent. upon the value of said canals and other property so actually used by them, respectively, in and
useful to, the appropriation and furnishing of said water
95 to the inhabitants of said counties, nor any just or reasonable compensation therefor, and that all the rates hereinbefore mentioned, fixed by the Boards of Supervisors aforesaid, are so low that they deprive complainant of its property without due process of law and without just compensation.

Although, as we have stated, the Boards of Supervisors—defendants herein—fixed rates in 1896 and 1904, such rates need not be considered, the same having been superseded by the rates severally fixed by all three counties in the year 1907, as hereinbefore stated. Judge Morrow, in his written opinion on the motion for an injunction herein, pendente lite, says: "All three counties fixed rates for the second time in the year 1907. It is the latter rates that are here in controversy." This conclusion is declaratory of the law as expressed in Section 5 of said Act. The only question, therefore, presented for determination is, whether the maximum rates so fixed by the Boards of Supervisors of the counties aforesaid for the year commencing July 1, 1907, were sufficient to permit the complainant to receive a just and reasonable compensation for the property used by the complainant for and useful to the appropriation and furnishing of water to the inhabitants of the counties aforesaid.

In determining this question the value of complainant's canals, ditches, flumes, chutes, and all other property actually used and useful for said purpose must be ascertained, as well as the amount

of its reasonable annual expenses in maintaining its plant
96 and in conducting its business as aforesaid, and also the probable amount it would be entitled to receive for furnishing water as aforesaid under the maximum rates so fixed therefor for the year commencing on July 1, 1907.

This court, in its opinion on application for preliminary injunction herein, referred to the concluding paragraph of the decision of the Supreme Court of the United States in the case of Stanislaus County v. San Joaquin and Kings River Canal and Irrigation Company (192 U. S. 201), quoting the language that "hereafter, in case the other counties should fix rates in such manner that, taken as a whole, the rates in the three counties would not insure an income of at least six per cent., as provided for in the act of 1885, the company would of course not be bound to accept such rates, and a decree in this case would not bind it in regard to the propriety of rates for the future, as fixed by the ordinance of 1896 for the county of Stanislaus." Counsel for complainant (opening brief, p. 45, par. 13) make the statement that "the complainant is entitled to relief against these ordinances when, and only when, their concurrent operation will deprive it of a just revenue; but, if such a condition is proved, it then becomes necessary to determine which of the ordinances causes that condition." Following this interpretation of the law, I shall first proceed to consider the value of complainant's properties as a whole.

It is also conceded that the value of the property is to be taken as of the time of the fixing of the rates. Counsel for complainant (opening brief, p. 44, par. 7) state that in determining the
97 value of property for the purpose of fixing rates, "the cost of that property is not to be in any sense a standard, although that cost may be looked to in corroboration or contradiction of other evidence;" and this I believe correctly states the rule. For the purpose of establishing such present value, the respective parties have offered expert testimony of engineers as to what would be the cost of reproduction of complainant's properties at the time of the fixing of the rates complained of, to wit, in 1907. It is conceded by both parties that such is the proper method of ascertaining the present value as distinguished from valuation based upon capital invested.

Cost of Reproduction of Complainant's Canal System.

Upon the question of the cost of reproduction of complainant's canal system, as of the 1st day of July, 1907, complainant has offered the testimony of R. H. Goodwin. It appears therefrom that Mr. Goodwin is a civil, mining and hydraulic engineer and that he has practiced his profession for thirty-four years; that in the year 1896 he made an examination of the properties of complainant at the instance of the Board of Supervisors of Stanislaus County, such examination covering the then existing works in the three counties of Fresno, Merced and Stanislaus, and that at that time he devoted between thirty-five and forty days to the examination and his com-

putations thereon; that in 1904 he again made an examina-
98 tion of complainant's properties, this time at the request of complainant; that such examination covered a space of about sixty days; that at that time he examined each structure and estimated the material and labor therein; that in 1906 he again examined complainant's properties, at the request of complainant; that the examination covered the whole system; that he checked up the same with a copy of his report of 1904; that this last examination took about fifty or sixty days. The result of this last examination is contained in complainant's Exhibit No. 1. This exhibit shows Mr. Goodwin's estimates of the properties examined by him, segregated by counties. In this report he made no estimates as to depreciation, his instructions being to estimate only the cost of reproduction.

The defendants, upon the question of cost of such reproduction, have offered the testimony of H. H. Henderson and Charles E. Sloan. Mr. Henderson testified that he was a civil and hydraulic engineer, having been engaged in his profession about nineteen years, principally in California; that he has had extended experience in the estimating and valuing of canals, that he has estimated the construction of a number of canals in the State of California, in Merced, San Joaquin, Glenn, Fresno and Madera counties, and that he has estimated the value of the existing structures and earthworks in the canals in these counties; that he has been familiar with complainant's properties since the fall of 1897; that he has traversed the canal frequently since that time to the present date;
that at the instance of the Water Users Association he made
99 an examination of complainant's properties, commencing the 21st day of December, 1908, and continuing until his examination as a witness on March 3, 1909, and that he examined the entire work and system of complainant's canals, with the exception of certain small branches (the Dos Palos branch canals Nos. 1, 2, 3 and 4,, in Merced County, and the Orestimba branch canal in Stanislaus County); that owing to the continued stormy weather and bad condition of the roads he did not make an examination of said branch canals. The result of his examination is contained in his report, defendants' Exhibit R. This report gives his values of complainant's properties segregated by counties. In addition to estimating the cost of reconstructing the canals, he also made an estimate of the depreciation of the physical structures.

Certain errors in computation are found in Mr. Henderson's report. The total estimated value of complainant's properties reported by Mr. Henderson, as shown by Exhibit R, is $415,406.40. Counsel for defendants, in their brief, state the total valuation shown by Mr. Henderson's report, after correcting errors, is $432,410.75 (p. 20), to which they concede should be added Mr. Goodwin's estimate of the cost of the branch canals omitted from Mr. Henderson's report, less certain estimates of depreciation made by complainant's witness, W. C. Hammett, amounting to $40,159.37, making a total of $472,570.12.

The total shown by Mr. Goodwin's report (Exhibit No. 1) is

$996,312.63. As stated, Mr. Goodwin's estimate is without allowance for depreciation. Upon the question of depreciation,
100 complainant offered the testimony of W. C. Hammett, whose profession is that of civil engineer, and who has been in the employ of complainant as its chief engineer from July, 1907, until the present time. His estimate of depreciation is contained in complainant's Exhibit No. 26, and shows a total depreciation of structures of $115,046.54. Making this deduction leaves a present value of $881,266.09.

Mr. Hammett has also made an estimate (Exhibit No. 26) of certain claimed appreciation of earthworks, which would increase complainant's estimate of present values; but for the purpose of comparing the reports of the respective engineers, inasmuch as the defendants claim that complainant's theory of appreciation is erroneous, I have omitted such claim from this statement of values and will consider it later on.

There is also certain personal property referred to by complainant (opening brief, p. 27) which is not included in Mr. Goodwin's report, amounting to $8,930.84, and also other items entering into the valuation of complainant's properties, which will be considered later.

The total cubic yards of earthwork, as estimated by Mr. Henderson, required to reproduce the canals is 4,482,983, which does not include the branch canals omitted as aforesaid. (The estimate of Mr. Goodwin for these branch canals is $214,095.00.) The total earthwork estimated by Mr. Goodwin is 5,367,768 cubic yards. Mr. Henderson's estimated cost of earthwork, based on 4,482,983 cubic yards, is $246,510.37, being about 5.5 cents per cubic yard. The cost as estimated by Mr. Goodwin is $575,730.95, being 10.725 cents per cubic yard.

101 The total cost of reproduction of structures, as estimated by Mr. Goodwin, is $420,686.87 (complainant states (opening brief, p. 31) this amount to be $386,384.65, which I will hereinafter show is in error). Deducting therefrom the depreciation of $115,046.54 given by Mr. Hammett, leaves $305,640.33 as complainant's estimated present value of structures.

Counsel for defendants (brief, p. 20) state that the cost of reproduction of structures, including telephone line, and including 20 per cent. for engineering, superintendence and contingency, less depreciation shown by Mr. Henderson's report, is $185,900.38. I have been unable to ascertain how this total has been obtained. Mr. Henderson, in his report, has not made a statement in totals of the cost of reproduction of structures without allowance for depreciation, but he has totaled his estimate of cost of such reproduction at the conclusion of his estimate of the respective canals or branches shown in his report. I have footed these totals, and also his total estimate of depreciation of the same, and I make such total $173,322.80, and the depreciation of the same $70,729.69. To this estimate of $173,322.80 should be added 10 per cent. for engineering and supervision, and 10 per cent. for contingencies, as stated in Mr. Henderson's report. Adding such 20 per cent. to said $173,322.80,

to wit, $34,664.56, makes $207,987.36 as the estimate of reproduction of structures. The present value is obtained by deducting the depreciation of $70,729.69 therefrom, leaving $137,257.67.

102 As Mr. Henderson did not include in his report the Dos Palos branch canals Nos. 1, 2, 3 and 4, in Merced County, and the Orestimba branch canal, in Stanislaus County, I assume there should be added to defendants' estimate that of Mr. Goodwin as to the cost of reproduction of the structures on such branch canals. I find the same, taken from Mr. Goodwin's report, to be (deducting Mr. Hammett's estimate of depreciation of such structures) $21,727.86. The total estimate of defendants for present value of structures is therefore $158,985.53.

Defendants also, upon the cost of reproducing the canals, structures, etc., offered the testimony of Charles E. Sloan, who testified that he was a civil and mining engineer of about fourteen or fifteen years' experience; that in June, 1907, he made an examination of complainant's properties at the request of Mr. Maddux, District Attorney of Stanislaus County; that at that time he was assisted by Mr. Burton Smith, a civil and hydraulic engineer, and that at the time of making his examination he had with him the report of Mr. Goodwin made December 24, 1906 (Exhibit No. 1); that at that time he went over the entire system, except what is known as the outside canal; that he made a written report of his examination to the Board of Supervisors, which report is embodied in defendants' Exhibit N. The total shown by this report as the cost of reproducing the canals, structures, tools, engineering and superintendence, is $413,306.32

Less, depreciation of structures.....	$47,849.70	
And deterioration of earthwork (silting)	30,000.00	
		77,849.70
Leaving a net value of.....		$335,456.62

103 *Amount of Excavation.*

I will take up first the matter of the quantity of the earthwork excavations of the canals. In estimating such earthwork, Mr. Henderson followed a somewhat different method from that of Mr. Goodwin. Mr. Henderson states that he was instructed to estimate the amount of dirt moved in the artificial cut in the original construction of the canals (testimony, p. 745), and that in determining this amount it was necessary to use two methods: first, by estimating the amount of the original dirt moved, by the amount of dirt upon the banks, allowing 10 per cent. for shrinkage; and, second, by taking cross-sections of the cut, that is (testimony, p. 741):

"Whenever we found that the canal had been constructed in low places, wherever the canal required dirt to be borrowed, I used the banks, as there would more earth appear in the banks than in the cut, and the banks should be used in order to find out the amount of earth removed. On the other hand, where the cut was greater than the amount of dirt in the banks, and I had knowledge of the

cut either washing out or the canal filling, or a slough where dirt had not been removed, I used the banks in that case. But wherever the canal was through the ordinary section the cut showed the amount of earth excavated, I used the cut. No general rule could be laid down in an ordinary canal in determining the amount of dirt removed by simply taking the cut. If the canal was partly natural and partly artificial, that which was artificial was credited as so much excavated. While, on the other hand, if it was going
104 through a country that had to be filled, why then I would not allow them the amount that I would otherwise. So that I had to calculate the amount of dirt that was borrowed, and that is the only way by which you can really get at it in such cases."

He further testifies (p. 743):

X Q. 22. Still you base a great deal of your report as to the capacity of those canals and the amount of excavation in them upon the amount of earth you found on the banks, allowing simply 10 per cent. for shrinkage, in preference to an actual cross-section of the depression below the natural surface of the earth,—is not that the fact?

A. With reference to my judgment, wherever my judgment told me that that should be the case, I did it. Of course, in considering the banks, there are a great many things to consider. Now, taking a canal as a whole, as is this one we are discussing, frequently the annual amount of dirt and silt that is removed from a canal in the way of repairs or cleaning the canal, which is a part of the cost of operation, why, that dirt is placed upon the banks, and a person in some cases would be measuring and crediting the company with dirt that had been removed on expense account, as well as perhaps to counteract that which might be worn away. So I take it if the canal is cleaned every few years the bank would be increased in size by the amount of silt that forms in the canal. So that you might, on the other hand, give the canal company far the advantage of the situation by measuring and crediting them with not only the original excavation but the silting that was excavated.

105 He also testifies (p. 742):

X Q. 11. If you follow right up right behind the work after it is done and before the canal has been used in any way, irrespective of putting the canal through any sloughs or anything of that kind, and you measure the actual depression below the natural surface of the earth, will not that show the actual amount of the excavation?

A. Yes sir.

X Q. 12. Is not that the best way to get at it?

A. Well, if you have got a canal just constructed, and it has not had a chance to fill up through any means, why that is the proper way certainly.

And from the answers to cross-questions 13, 14 and 15, it appears that some of the banks had been built as long as forty years.

Mr. Henderson testifies (p. 726) that in calculating the earthwork of the main canal he found in many places that the canal was badly silted up on one side, but that the bottom had eroded to a con-

siderable depth, and the cross-sections of the canal showed that there was as much water-way below the average level of the surface as there was earth in the embankment, plus 10 per cent. shrinkage in the banks. "In most cases we found that in the main canal, especially on the upper part of it, that the cut section of the canal was far in excess of the amount of dirt in the embankments, and in regard to the main canal, why I estimated the amount of dirt in the embankments and allowed for shrinkage 10 per cent. In the
106 outside canal I allowed for the greater part of it the amount of earth excavated according to the cut, using the average surface of ground on either side of the bank and drawing a line between the two points to determine the average surface at the center of the cut, and calculating the amount of excavation below that line; while upon the upper part, where the banks had been somewhat destroyed by stock and where there was some accumulation of silts, why, I took the banks only, and in doing that, in making the examination of the upper part of the main canal, why, it was strongly evident, both from what I saw at the present time and what I have known in the past, that the bottom of the canal had been eroded to a considerable depth, and which the cross-section showed clearly, as in places where the earth had been left in the banks, and there was an average bank, measured without any borrow pits or any waste dumps, so as to estimate the amount of dirt that was actually in the cut below the average surface of the cut would have been really in excess of the amount that had been excavated in the original construction of the canal."

Counsel for complainant contends that Mr. Henderson's method of calculation is necessarily imperfect, because, after the vicissitudes of use and the elements during so many years, it is necessarily impossible at this time to more than guess at the natural conditions as they were at the time the canals were constructed. And further that "if, therefore, complainant had utilized the flow of water for the purpose of enlarging the cut, and even if that operation had not cost complainant a cent, the fact would remain that complainant
107 had now a canal of a certain capacity, and its present value is measured by its present capacity, no matter how that capacity was brought about. The real question then is, what is the size of the cut now found in the ground.

It seems to me that there is much force in counsel's claim that Mr. Henderson's method of estimating the amount of the dirt upon the banks after the lapse of forty years would necessarily be imperfect, because, as stated, of the vicissitudes of use and of the elements. On the other hand, if it is a fact, as testified by Mr. Henderson, that the canal is in places eroded so that the cut as now existing is larger than the original cut, and if such erosion has produced a cut larger than is necessary or advantageous in the carriage of the waters, to estimate the amount of excavation by the amount of the cut would be to allow a larger amount of excavation than would now be necessary to produce the same results. However, there is no testimony by which an estimate could be made as to what extent the canal has been eroded, nor does it appear that Mr. Goodwin has included in

his estimates the full size of the cut when it appeared that a cut larger than necessary had been produced by erosion.

Mr. Henderson stated that he had made certain cross-sections of the canal, and at the request of counsel for complainant he submitted the same to counsel, and upon these cross-sections produced by Mr. Henderson, counsel for complainant has caused to be made an estimate of the depression shown by such cross-sections. This estimate is contained in Exhibit No. 31, and is printed in
108 complainant's opening brief, at page 15, where a comparison is made between the amount of excavation shown by Mr. Goodwin's report and the amount of excavation which would be represented by Mr. Henderson's cross-sections, from which counsel has tabulated the following total result (complainant's opening brief, p. 22):

Cut estimated by Mr. Henderson (Exhibit 31).. 4,679,760 cu. yds.
Adding certain other excavations, not included by Mr. Henderson, makes a total of..... 4,982,666 cu. yds.

Counsel for defendants have not disputed the correctness of these calculations.

Mr. Goodwin's estimates, as heretofore stated, is 5,367,768 cubic yards. Deducting 4,982,666 therefrom leaves a difference of 385,102 cubic yards, which would represent the difference between the two engineers, if the estimate of the excavations is to be based upon cross-sections, instead of the method of estimating by cross-sections and banks, as done by Mr. Henderson (complainant's opening brief, p. 22).

While recognizing Mr. Henderson's skill and ability as an engineer, it appears that his examination of the canal was less thorough than that of Mr. Goodwin, that he was somewhat pressed for time in the preparation of his report, to have the same ready for use in this case, and also that he met with much stormy weather during his examination of the canal (p. 726 of the testimony). And I am of opinion from all the testimony that Mr. Goodwin's estimates of the quantity of excavation are more accurate, and it does not
109 appear from the testimony that he has included in his estimates a larger quantity of excavation than would be necessary, by including depressions or cuts caused by erosion, such erosion producing a larger cut than necessary for the carriage of the waters. I agree with counsel for complainant that if the cut by action of the waters has been enlarged so as to increase the usefulness of the canal in the carriage of waters, that complainant would be entitled to a valuation based upon the increased usefulness of the canal, inasmuch as an increase in the carrying capacity of the canal would be an increase in its earning capacity and value. Also, while Mr. Henderson refers to erosion, there is no estimate as to the quantity or to what extent the same impairs the usefulness or value of the canal. For the foregoing reasons, I am of opinion that the estimates of Mr. Goodwin should be accepted over those of Mr. Henderson as to the amount of excavation, and I therefore find that the amount of

earthwork required to reproduce complainant's canals is 5,367,768 cubic yards.

Cost of Excavation.

As to the cost per cubic yard of the excavation, the estimate of Mr. Goodwin shows an average of 10.725 cents and of Mr. Henderson about 5.5 cents per cubic yard. Mr. Goodwin's estimate is based upon the cost of doing the work by means of scrapers (testimony, p. 125). Defendants claim that this method is an expensive, slow and obsolete method of digging irrigation canals; that this work would now in a large measure be done with modern excavat-
110 ing machines, and has called as witnesses Mr. Charles H. Dasher, a mechanical engineer and agent for the New Era and Western Giant graders, and Mr. Albert B. Southard, an engineer, who testified as to the use of such machines in the building of canals. Mr. Henderson describes the mode of excavation upon which his estimates are based. He testifies as follows (p. 729):

"Well, the general procedure of constructing that canal was, I figured, in the first place, the number of necessary weirs, either in the sloughs or in the canal, where it was necessary to take up the grade. Then with the ordinary excavator, generally known as the "Era" excavator—that is, one of the many new types—to construct the base of levees, which would form the side walls of the canal, then to construct on the other side, one on each side of the two mentioned levees, a sufficient distance therefrom to form the outside part of the embankment, and then with a suction dredge, one so designed as to drag itself out and around the weirs, to remove the center core and pump it into the places between the levees, and following the plant back. * * * The water would be taken from the San Joaquin river, just as it is now, following the dredge." He further testifies that the method of excavating canals by dredges is less expensive than using plows and scrapers: "They are less, materially so, that is upon the experience in a number of large contracts that have been taken." He also testifies that canals in soils similar to this (complainant's) have been excavated by means of machinery instead of plows and scrapers. At p. 730 of the testimony he
111 further describes the methods pursued. At p. 786 he testifies that he has figured the excavation in his report (Exhibit R) from 5 to 7 cents, never over 7 cents; that the dredger work was estimated at 5 cents; that where a greater part is excavator work he estimated it at 6 or 7 cents (p. 787).

He further testifies (p. 787):

X Q. 283. Now, then, as I understood you to state, you estimated the dredger work at 5 cents,—is that correct or not?

A. Well, as I said in my direct examination, in the main canal my idea of it was to just build part of the banks, the shell of the banks with the excavator, and remove the remaining part of the canal with the suction-dredge.

X Q. 284. Now is that the kind of work that you figured at 5 cents?

A. Those combining the two I figured at 5 cents.

At p. 788 he testified that he had not in any canals that he had anything to do with used the method described by him, except a certain work then being done at Stockton, which he stated was being done substantially in that way.

At p. 789 he further states that he has had a great deal to do with the Era grader and has had considerable to do with dredgers, and that he has excavated with dredgers a little below and a little above 4 cents. He further states that he does not know of any canal in the San Joaquin Valley that has been built by means of the method described by him by use of combination of excavators and suction dredgers.

112 Mr. Charles H. Dasher testified that he is a machine salesman for Henshaw, Bulkley & Company of San Francisco, which company sells two makes of elevating graders, the New Era and the Western Giant. He further testified as follows (p. 898):

Q. 36. Do these machines excavate a canal, say, for irrigation, fifty-five feet wide and seven and one-half or eight feet from the bottom of the cut to the top of the bank?

A. The Western Giant will excavate such a canal.

It does not appear that Mr. Dasher has had any practical experience in the digging of canals by the use of excavators. He testifies, however, that he is a mechanical engineer, and that he has practiced his profession as a mechanical engineer and draftsman and designer of machinery; that he personally knows of three of the described machines that were used for the purpose of excavating canals; that he did not see the work done, but that he afterwards saw what they said was the work done by the machines; that the two machines described by him have about the same capacity, but that the Western Giant is constructed with a longer elevator, that the elevator of the New Era is twenty-two feet, and the Western Giant is as long as thirty feet; and that the thirty-foot elevator would build a ditch of approximately sixty feet wide by driving up one side and delivering the earth on that side, and then driving up the other side and delivering the soil on that side.

Mr. Albert B. Southard testified that he is a civil engineer and contractor; that he has been an engineer practically for
113 twenty-seven years and a contractor for about seven years; that he used the New Era grader in cutting a ditch for levee work and throwing up a levee about ten miles from Colusa, California; that the character of soil was a valley loam; that such soil plowed up very readily and did not clod; that the cost per cubic yard was from three to five cents. On cross-examination it appeared that he had a percentage agreement with the Crocker Estate, for whom the work was being done, and that he did not finish the work because they would not sign an agreement, and that the work was turned over to A. E. Buckman, who told him that he had a contract for nine cents, and that he had put it in for nine cents and he got ten per cent. And at p. 919 he testified that he never did any class of work without knowing exactly what it cost him a yard; that he allowed 10 per cent. for depreciation on the excavators. And

at p. 924 he states that the capacity of the excavator was 22 feet, and by using it on two sides it would cover a distance of forty-four feet; that the base of the levee was over fifty feet, and the other space was covered with scrapers; that he had to run teams on the levee to work the dirt down; that the levee did not stand the pressure of the water, even with the teams that were put on it; that the water went through the levee; that in making the estimate of expenses he included the depreciation of the elevator, the rent of the horses and the labor, the feed, blacksmithing, the repairing, the full camp account, and everything that was chargeable against the amount of material handled, nothing foreign to it. That the estimate of 3 to 5 cents included the expense of the scraper that helped the
114 excavator; "not when we were building with the scrapers alone, but we used a couple of scrapers along with the machine when it was necessary."

Mr. Southard was afterwards recalled for further cross-examination, and testified:

R. X Q. 43. Now I did not understand you as to whether or not you included in your estimate of the cost of the excavator the work which the scraper did after the excavator in throwing out and onto the banks the balance of the earth. Did you include that scraper work in your estimate of from 3 to 5 cents?

A. I did not mean to include that. I meant to state it this way: that in throwing the dirt in with the excavator it was necessary to tamp it down, which I did by running a harrow over it, and some places where the excavator would not reach far enough we used one or two scrapers along to pull that in. That work was charged in with the excavator work, and I arrived at the figure which I gave.

R. X Q. 44. But what part of the scraper work was it that you did outside of that estimate of from 3 to 5 cents?

A. The excavator I found not able to handle the dirt more than six feet, about six feet or six feet and a half high; that would be three feet down and three feet and a half up, about a seven foot bank, and above that we had to use scrapers altogether. That scraper work was not charged in against the excavator, as that was all done by team work.

R. X Q. 45. What did you estimate to be the total cost of that embankment, including both the scraper and the excavator
115 work?

A. It ran about seven and a half cents.

In reply to the question, "What would be the least amount, Mr. Southard, that you would be willing to take a contract for to build a canal on a large scale, a forty-foot bottom, along the foot-hills of the San Joaquin Valley on the west side of the river, through the counties of Fresno, Merced and Stanislaus?" he answered: "I figured on some work in that country with several parties, and we decided that nine or ten cents was about what that class of work was worth."

Mr. Hammett, complainant's managing engineer, testified that he constructed what is known as Branch No. 5 of the Colony Canal or

Dos Palos Canal belonging to complainant, in January and February, 1908, the length of the canal being 12,900 feet; that the method of building was as follows: "I first ran the excavator through, taking out the cut and depositing it on the banks; then afterwards shaping the canal and compacting the banks by means of a four-horse Fresno scraper—by means of four-horse Fresno scrapers."

Q. Was that necessary in order to get the earth out of the trench and into the bank?

A. Yes.

He further testified that he kept an expense account of the construction, and that Exhibit No. 32, introduced in evidence, is a correct statement of this piece of work and the cost thereof, which shows a cost of 11.36 cents per cubic yard.

at p. 447 Mr. Hammett testified that they (complainant) had done quite a bit of excavation work both with scrapers
116 and with excavators, and that it cost from 10 to 15 cents a cubic yard, according to conditions; that where the canal was not too deep excavator work can be done for nine cents, but only under the best conditions.

Mr. Goodwin, in his estimate, made in 1896, on behalf of the Board of Supervisors of Stanislaus County, estimated the earth excavation at 6½ cents.

Counsel for defendant calls attention to the estimate made by Mr. Goodwin in his report (Exhibit No. 1) as to the cost of reproduction of the outside canal and outside canal extension to Los Banos Creek, the total estimated cost of reproduction being $168,850.42, while Mr. Merritt, complainant's secretary, testified that the same work cost $86,315.56 (testimony, p. 184). Counsel for complainant, in his reply brief (p. 9), answers that there are three reasons for the apparent difference between the cost of construction and the present value of the Outside Canal: "First: our book values of cost of construction does not include engineering and general superintendence, which should be figured at 10 per cent.; second: it does not include any profit to the contractor, which should be figured at least at the same amount; third: the canal was constructed to Los Banos Creek prior to November, 1897, and to Quinto Creek prior to February, 1904, and it is notorious and not disputed that the prices of both labor and material have advanced since that time at least one-third and probably more.

117	Taking the original cost at	$86,315.56
	And adding 10 per cent. for engineering and general superintendence	8,631.55
	And allowing an advance in labor and material of one-third (one-third of $86,315.56)	28,771.85
	Makes a total of	$123,718.96

In this comparison the claim that 10 per cent. should be added as contractor's profit I am of the opinion is not correct, inasmuch

as all the estimates made in these proceedings are made without a contractor's profit.

After making all these allowances it appears to me that Mr. Goodwin's present estimate is still too high, it being based upon doing the work entirely by scrapers.

The method suggested by Mr. Henderson of a combination of excavator and dredger has not been shown to have been used in work of this character, and must therefore be considered theoretical. Also the evidence does not establish satisfactorily that the work could be done entirely with excavators without an accompanying use of scrapers. I am of the opinion, in view of the testimony, that the work would now be done with a combination of excavators and scrapers; the excavators to the extent that they could be used would lessen the cost of construction. As to just what this extent is, there is no testimony upon which I am able to make an estimate. The single instance given by Mr. Hammett of work done by combination of excavator and scraper, costing 11.36 cents per yard, cannot be taken as a general estimate, in view of Mr. Goodwin's testimony that the work, if done entirely by scrapers, could be done for 10.725 cents a cubic yard. Mr. Southard's statement that he had figured on work in the locality of these canals as being worth nine to ten cents, includes his contractor's profits, and while he testifies that the excavator work was done from three to five cents, the work when supplemented by scrapers he states cost seven and a half cents. Mr. Henderson's estimate is based as appears from the foregoing excerpts, upon doing a portion of the work with a dredger, and since I have not taken into consideration such method his estimate would be too low. As shown above, in regard to the outside canal, after making all allowances claimed by counsel, except that of contractor's profit, Mr. Goodwin's estimate is one-third too high.

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It seems to me a fair allowance, under all the testimony, would be an average estimate of eight cents a cubic yard.

Counsel for defendant (brief, p. 16) state that the amount of earthwork according to complainant is 5,366,768 cubic yards, and that the cost thereof is $605,794.98, or at an average of 11.2 cents per cubic yard. There is a slight error as to the number of yards, evidently a misprint, which should be 5,367,768 cubic yards. But there is a material error in the statement of the amount, $605,794.98. The amount, as I figure the same from Mr. Goodwin's report, is $575,730.95, and the average per cubic yard is 10.725 cents. Defendant made this error by taking complainant's statement found in their brief, p. 30, that the value of structures and buildings as shown by Mr. Goodwin's report, is $386,384.65. Defendants have taken the total of structures and buildings as shown by Mr. Goodwin's report, is $386,384.65. Defendants have taken the total value of all the property shown by Mr. Goodwin's report, which they state is $992,179.63, and have deducted from this amount the said $386,384.65 alleged cost of structures. This would leave $605,794.98, which it is claimed would represent the earthwork. But complainant has also made an error in the com-

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putation of the value of structures and buildings shown by Mr. Goodwin's report. At p. 30, taking the first item, head works, $84,732.23, by examining Mr. Goodwin's report under the estimated cost of headworks and sundry items (p. 1), it appears that this estimate of $84,732.23 includes 10 per cent. for engineering and general superintendence, etc. But in all the remaining items in the statement this 10 per cent. for engineering and superintendence is not added. This appears from the following item on p. 1 of Mr. Goodwin's report of estimated cost in Fresno County:

Fresno County, Main Canal, Stop and Outlet Gates, Bridges, etc.	$20,945.33
Telephone Line, 21.06 miles at $70	1,474.20
Making	$22,419.53

This represents all the physical structures in this estimate of the main canal in Fresno County given in this particular schedule. It will be noted that there is also the item on p. 1 of "Engineering and General Superintendence, 10%, $9,655.95." This is the 10 per cent. of all the items stated on this page 1, and includes 10 per cent. on said physical structures. The item given in complainant's brief, p. 30, of main canal, is $22,419.53 which is the amount estimated by Mr. Goodwin, without adding the 10 per cent. This 10 per cent. undoubtedly should be added as a part of Mr. Goodwin's estimate of the value of such structures and buildings, and this mistake of not adding in that 10 per cent. applies to all the items in complainant's statement (p. 30) of the estimated value of structures and buildings, except the head works. I have made from Mr. Goodwin's report a computation of the value of all the structures and buildings given in his report. I find the same to be as follows:

Fresno County, Head Works		$84,732.23
All other structures	$95,159.65	
Adding 10 per cent. for engineering, etc.	9,515.97	
		104,675.63
Merced County	$178,086.32	
Adding 10 per cent.	17,808.63	
		195,894.95
Canal Station, Improvements (not included in Mr. Goodwin's sub-totals)		1,700.00
Canal Station, Horses (not included in Mr. Goodwin's sub-totals)		200.00
Canal Station, Carts and Wagons (not included in Mr. Goodwin's sub-totals)		562.00
Stanislaus County	$28,406.42	
Adding 10 per cent.	2,840.64	
		31,247.06
Canal Station (also not included in Mr. Goodwin's sub-totals)		1,500.00

Canal Station: horse, cart and wagon ("Estimated Cost of Headworks," Stanislaus County, title page)	175.00
	$420,686.87
Adding to this the estimated cost of earthwork	575,730.95
Makes	$996,417.82

121 Mr. Goodwin, in his affidavit attached to his report, states that his total valuation, referring to all complainant's works, is $996,312.63 (p. 3 of the affidavit). There is thus a difference of $105.19 between the total as stated by Mr. Goodwin, and as I have obtained the same from his report, which difference I am unable to locate, and which is too small to need correction.

Taking an average of 10.725 cents as Mr. Goodwin's estimate, my allowance of 8 cents would make Mr. Goodwin's average 2.725 cents per yard too high. As the cheaper excavation may be more in one county than in another, it seems to me that in ascertaining the value of the earthwork in the respective counties a reduction should be made from Mr. Goodwin's cost, of the percentage that this estimate is too large. This percentage is ascertained by dividing such excess, 2.725 cents, by 10.725, which gives 25.4 per cent., which is the percentage to be deducted from Mr. Goodwin's estimate of the respective counties. The following is a table, the figures for which I have taken from Mr. Goodwin's report:

Fresno County.

	Cu. yds.	At ¢.	
China Slough (main canal)	17,000	5	$850.00
Main Canal	732,900	10	73,290.00
Parallel Canal, Fresno	347,040	10	34,704.00
Dos Palos, Main Canal	109,617	10	10,961.70
Side Canal	8,450	7	591.50
Dos Palos Branch No. 1	38,787	8	3,102.96
" " " " 2	14,124	8	1,129.92
Outside Canal	532,400	10	53,240.00
Side Canal	80,000	7	5,600.00
Outlet Canal No. 1	18,835	10	1,883.50
Outlet Canal No. 2	18,900	8	1,512.00
Outlet Canal No. 3	24,724	10	2,472.40
	1,942,777		$189,337.98

122 Merced County.

	Cu. yds	At ¢.	
Main Canal	467,900	10	$46,790.00
Drain Canal	46,320	7	3,242.40
Extension A, Main Canal	840,694	10	84,069.40

Parallel Canal	396,106	10	39,610.60
Dos Palos Canal	26,908	10	2,690.80
Dos Palos Canal, Extension	68,112	10	6,811.20
Dos Palos, Branch No. 1	61,525	8	4,922.00
Dos Palos, Branch No. 2	63,655	8	5,092.40
Dos Palos, Branch No. 3	58,571	8	4,685.68
Dos Palos, Branch No. 4	19,344	7	1,354.08
Outside Canal	445,225	10	44,522.50
Side Canal	62,800	7	4,396.00
Outside Canal, Extension	456,655	10	45,665.50
Outlet Canal, No. 4	6,118	8	489.44
Outlet Canal, No. 5	23,200	8	1,856.00

Stanislaus County.

Main Canal, Extension A	232,504	10	$23,250.40
Main Canal, Extension B	138,354	10	13,835.40
Orestimba Branch Canal	11,000	7	770.00
	381,858		$37,855.80
Total for the three counties	5,367,768		$523,391.78

Adding 10 per cent. for engineering and superintendence:

Fresno County, estimated cost, total	$208,271.77
Merced " " " "	325,817.80
Stanislaus " " " "	41,641.38
Goodwin's total estimated cost	$575,730.95

Deducting the 25.4 per cent. excess over 8 cents, gives:

Fresno County, value of earthwork found by me	$155,370.73
Merced County, " " " " " "	243,060.08
Stanislaus County " " " " " "	31,064.47
Total value of excavation found by me	$429,495.28

123 *Valuation of Structures.*

The reports of the respective engineers, Goodwin and Henderson, Exhibit No. 1 and Exhibit R, while covering substantially the same properties, are not so arranged that I have been able to make a comparison of the particular works and structures enumerated, that is, there is no identifying designation by number or otherwise of the structures upon which the valuations are placed, and only in a few instances have I been able to pick out the estimates relating to any particular work or structure, and therefore I have been unable to make a detailed comparison as to what items enter into any par-

ticular construction. The greatest valuation attached to any single structure is that of the San Joaquin River weir, and as to this structure a comparison may be made.

Mr. Goodwin's estimate is given on p. 1 of the first sub-division of his report (Exhibit 1). His estimate of reconstruction of said weir is $54,046.50; that of Mr. Henderson is found on p. 5 of his report (Exhibit R), and is $34,384.00. Neither of these estimates include depreciation. It appears from Exhibits 14 and 15 (complainant's brief, p. 34), which is a statement of the actual cost of construction of complainant's properties, as shown by its books, that the original cost of construction of the San Joaquin River weir, was $28,988.28. Mr. Goodwin's present estimate of the cost of reconstruction of this weir is 93 per cent. more than the actual cost of the work I will assume, as claimed by counsel, that the book charges as to cost do not include superintendence, and that 10 per
124 cent. should be added therefor; also that the cost of labor and materials have advanced one-third:

Actual cost	$28,988.28
Allowing 10 per cent. for engineering	2,898.83
Adding one-third for advanced costs	9,662.76
	$41,549.87

This makes Mr. Goodwin's estimate about 30 per cent. higher than the present cost, on this basis. Mr. Goodwin's estimate was made in the fall of 1906, and on cross-examination he was asked the following question:

X Q. 104 (p. 88). Now these reports are dated December 24, 1906. You made this examination probably within sixty days prior to that date?

A. I did; yes sir.

X Q. 105. Is it not a fact that in December, 1906, redwood lumber mentioned in your report was much higher than ordinary?

A. It was.

Defendants claim that Mr. Goodwin's estimates were made at a time when the cost of living and of labor and materials were abnormally high, due to unusual conditions, and are not a fair criterion of the reasonableness of the cost.

In support of the prices charged for lumber, complainant introduced Exhibit No. 5, which is a retail lumber price-list dated November 7, 1906.

Counsel for complainant state that the question is as to the value of the property and not the cause of the value. It seems to me that it does not necessarily follow that present cost of reproduc-
125 tion would always be present value. In a work of the magnitude and durability of the properties under consideration, the values thereof would not be materially affected by fluctuations of prices. In the course of a number of years the value of the plant might vary, but its value would not vary from year to year with the fluctuation of prices. In other words, if we assume a year of great financial depression, when the prices of labor and materials have

become greatly lessened, caused by some great calamity or abnormal condition, which was clearly of a temporary nature, it could not be said that the values of complainant's properties had fallen to the extent of such temporary decrease of labor and materials. For rates to be fixed on such a basis would certainly be most unjust and unfair to the canal company. On the other hand, if because of some reasons, such as actually took place immediately preceding the time that Mr. Goodwin's estimates were made, caused by the earthquake and fire of April, 1906, in San Francisco, the local prices of all commodities and labor was abnormally advanced, certainly an estimate based upon such prices and rates fixed thereon would be unjust to the consumer. So I conclude that "present value" does not necessarily mean present cost of reconstruction. Although no testimony has been offered in this case tending to show to what extent prices were abnormal, in the fall of 1906, in this market at the time that Mr. Goodwin made his estimates, it is a matter of common knowledge that both labor and materials were unusually high.

As to Mr. Goodwin's estimate of the San Joaquin River
126 weir, it does not seem to me to be reasonable that such a work, which cost $28,988.28 in about 1900, would have a value, if new, of $54,046.50 in 1906.

I am of opinion that the report of Mr. Goodwin was the more carefully made, that his experience as to the properties of this company was greater than that of Mr. Henderson; but for the foregoing reasons I cannot accept his report in its entirety over that of Mr. Henderson.

From my examination of all the testimony and a comparison between the reports of Mr. Henderson and Mr. Goodwin on the value of the structures, I am of opinion that Mr. Goodwin's estimates are about one-fourth too high.

Deducting 25 per cent. from the value of the structures by counties, we have the following:

Fresno County	$189,407.85	
	47,351.96	$142,055 89
Merced County	$198,356.95	
	49,589.24	148,767 71
Stanislaus County	$32,922.06	
	8,230.52	24,691 54
This makes a total of		$315,515.14
Deducting from this amount 30 per cent. for depreciation, which is the percentage hereinafter found by me, to wit		94,654.54
Leaves a present value of structures as found by me of		$220,860.60

127 *Rights of Way.*

Complainant has made two separate statements as to the values of the rights-of-way claimed by it. In its opening brief (p. 24) it is claimed that upon the evidence of F. B. Marks (pp. 16–29 of the testimony), John Q. Drummond (pp. 30–44), W. G. Stockton (pp. 45–55), J. N. Stuhr (pp. 56–61), and S. J. Shannon (pp. 135–145), the value of the rights-of-way are not less than, in Fresno County, $15.00 per acre; in Merced County, $60.00 per acre; and in Stanislaus County, $100.00 per acre. At page 25 of complainant's brief, in its statement of complainant's physical properties, which includes the rights-of-way, the rights-of-way are not separately added up, but I have added them, taking the amounts as stated at pages 25, 26 and 27 of complainant's brief, and such total is $169,415.10, which does not include land at the head-works and at Quinto section-house. In complainant's reply brief a different claim is made, and complainant has undertaken to segregate the rights-of-way, instead of taking an average by counties. The total of the valuation here claimed is $189,414.00. In going over the figures it seems to me an error has been made at p. 12 in adding the number of acres commencing with "Main Canal Extension A, $182.00," which are added up as 474.60 acres at $100.00, $47,460.00, while the total should be, it seems, 850.60 acres. There is also a mistake in the addition of the total for Merced County, which is given as $133,333.50, but should be $129,222.00 according to the figures given, without mak-
128 ing the correction referred to of changing 474.60 acres to 850.60 acres. Making this correction gives a total valuation of $195,573.50, instead of $189,414.00.

It is admitted by complainant that the only amount of cash paid for rights-of-way by the company, so far as shown by the evidence, is the sum of $454.25, Mr. Merritt having testified that the only item that he could find in regard to the payments for right-of-way was that to C. H. Wagner of $454.25 (testimony, p. 327). It is claimed by counsel for defendant: (1) that complainant has introduced no evidence whatever as to the value of its right of way, except for farming purposes; (2) that there is no evidence that complainant ever acquired the fee or whole title to the land occupied by its canals; (3) that complainant was donated its rights-of-way with the exception of the said $454.25, and that the water consumers, having freely given these rights-of-way to the company, should not have them valued against them in the matter of fixing rates; and (4) that if these donated rights-of-way should be valued the value should be fixed on the basis of the value of the land unenhanced by the construction of complainant's canals (defendants' brief, pp. 26, 27 and 28).

As to the first and second objections, Mr. Merritt testified that a considerable number of the deeds were lost in the fire. An objection to this testimony was sustained on the ground that it did not appear but what the deeds had been recorded, and that record copies
129 of such deeds could be obtained. No record copies of such deeds were offered in evidence. Complainant contends that

it is immaterial whether or not the company owns the fee of its rights-of-way, since the nature of the easement is such that the value of the fee would have to be paid if the easement were acquired by condemnation (reply brief, p. 10). The canal company has a perpetual easement in the lands over which the canals are constructed, even if it has not acquired the fee. It is my opinion that such easement would have a value equal to that of the fee.

As to the third objection, that complainant was donated its rights-of-way by the water consumers, and that therefore they should not be valued: The statute of March 12, 1885, under which the rates in question are fixed, provides that in fixing said rates the supervisors may take into account "any and all other facts, circumstances and conditions pertaining thereto, to the end and purpose that said rates shall be equal, reasonable and just, both to said persons, companies, associations and corporations, and to said inhabitants." It may be said, as claimed by counsel, that where such rights-of-way were given to the company by the people of the county, it is inequitable to value the same against them in fixing water rates. Counsel for defendants, in support of this claim, cite the case of Wilcox v. Consolidated Gas Company of New York, decided by the United States Supreme Court on January 4, 1909, claiming that such case decides that franchises or other property of a gas company
130 that cost the company nothing should not be valued for the purpose of fixing rates. I am of opinion that counsel has misinterpreted the effect of this decision, and that such decision is to the effect that, although the franchise did not cost the gas company one cent, it was property having value, and that the same must be valued in fixing rates.

On the fourth point, that the land should be valued at its value without the improvement, that is, at the value it would have without the canal, counsel for defendants cite the case of San Diego v. Neale, 78 Cal., 75; 88 Cal. 55. Such undoubtedly is the rule where it is sought to condemn property for public use, but it does not follow that the same rule must obtain where the valuation is being made long after the improvement has been effected. I am of the opinion that the value of the land over which the canal passes is to be measured by the present value of the surrounding lands adjacent thereto.

On the value of its rights-of-way complainant introduced the evidence of several witnesses.

Frank B. Marks, called for complainant, had lived in Fresno County fifteen years; had been in the colonizing business, in the real estate business, and a dairyman. For lands along the main and outside canals in Fresno County, he gave the average value for all the lands at $15.00 to $20.00 per acre (p. 17 of the testimony), stating that the land for the first four or five miles from the head was worth $60 or $70 per acre. Mr. Marks testified (p. 25) that
131 the land along the outside canal was slightly better than the land along the main canal, but his average is for all the land. The land along the Dos Palos system he averaged at $70.00 per acre. It appears that the witness testified largely from his general knowledge as to the value of the land; that he had seen very little

of the land recently; and that he had made no examination of the lands testified to for the purpose of estimating their value (testimony, pp. 21, 23, 24, 25).

John Q. Drummond, called for complainant, had resided in Merced County since 1872; was superintendent for complainant from 1871 to 1889; since 1889 he had been engaged in farming and dairying; and was assessor for four years, his term ending "four years ago" (p. 41 of the testimony). Mr. Drummond estimated the value of the lands along the main and outside canals in Fresno and Merced County, as follows:

Fresno County:			
First seven miles (from headworks)	$30.00	per acre	(p. 32)
Next 14 miles (to Fresno-Merced county line)	10.00	" "	(p. 32)
Merced County:			
First 9 miles (from Fresno-Merced county line)	10.00	" "	(p. 32)
Next 10 miles (to Volta)	100.00	" "	(p. 33)
Next 9 miles (to 3 miles beyond San Luis Creek)	25.00	" "	(p. 33)
Next 10 miles (to Stanislaus County line)	100.00	" "	(p. 33)

132 Mr. Drummond testified that the land along the main canal and the land along the outside canal was of about the same value (p. 33).

As with Mr. Marks, it appears that Mr. Drummond testified largely from general knowledge as to the value of the land.

W. G. Stockton, called for complainant, had resided at Los Banos, Merced County, for thirty-six years, and was engaged in dairy farming. He placed the value of the lands along the canals in Fresno County at $10.00 per acre, except at the head of the canal (p. 46). He gives the following values for lands along the main canal in Merced County:

First 9 miles (from Fresno-Merced county line to 30-mile point)	$10.00	per acre	(pp. 46, 50)
Next 8 miles (to 38-mile point)	100.00	" "	(pp. 36, 49)
Next 12 miles (to 2 or 3 miles beyond San Luis Creek)	25.00	" "	(p. 50)
Next 9 miles (to Stanislaus county line)	100.00	" "	(p. 50)

Mr. Stockton testified (pp. 46, 50) that the land along the outside canal was more valuable than that along the main canal; but his testimony is indefinite as to the amount of such excess in value. At p. 47 he states that the average value of the land along the outside canal in Merced County is $35.00 per acre; but this is evidently in error, as his average for the main canal is about $55.00 per acre; the price of $35.00 per acre was evidently intended to apply to part only of the outside canal.

Jasper N. Stuhr, called for complainant, had resided at
133 Newman, Stanislaus County, since 1886, and was engaged in the real estate business. He testified that the land along the canal in Stanislaus County was worth on an average $100 per acre (p. 56).

S. J. Shannon, called for complainant, had lived at Los Banos since 1891, and was, and had been since 1891, in charge of the Land Department of Miller & Lux. He gave the following averages for the lands along the canals, main and outside:

Fresno County	$20.00 per acre	(p. 135)
Dos Palos system:		
For 2 miles south of Fresno-Merced county line	$60.00 per acre	(p. 136)
For the lands in Merced County	70.00 " "	(p. 136)
Merced County:		
First 9 miles (from Fresno-Merced county line to 3 or 4 miles beyond Camp 13)	$20.00 per acre	(p. 137)
Next 11 miles (to Volta)	$65–125 " "	(p. 137)
Next 9 miles (to 4 miles beyond San Luis Creek)	$25.00 " "	(p. 137)
Next 9 miles (to Stanislaus County line)	100.00 " "	(p. 137)
Stanislaus County	125.00 " "	(p. 138)

The defendants introduced two witnesses on the question of the value of the complainants' right-of-way.

Joseph Pfitzer, called for defendants, had lived for forty years in Merced County, and had been engaged in farming, sheep and cattle raising.

134 He estimated the average values of the land along the complainant's main and outside canals, as follows:

Fresno County:		
First 8 miles (from headworks)	$5.00 per acre	(p. 608)
Next 13 miles (to Fresno-Merced county line)	2.50 per acre	(p. 608)
Merced County:		
First 5 miles (to Camp 13)	2.50 per acre	(p. 608)
Next 15 miles (to Volta)	30.00 " "	(p. 609)
Next 9 miles (to 3 miles beyond San Luis Creek)	5.00 " "	(p. 609)
Next 9 miles (to Stanislaus County line)	90.00 " "	(p. 609)
Stanislaus County	90.00 " "	(p. 609)
Dos Palos System	30.00 " "	(p. 611)

Mr. Pfitzer testified that much of the main canal runs along a strip of alkali land, clear through to the Cottonwoods in the northern part of Merced County (pp. 137, 623 of the testimony), that is of much less value than the surrounding land that can be cultivated; and that some alkali lands cannot be washed out (p. 619).

Eugene McCabe, called for defendants, had lived at Volta, Merced County, since 1885, and had been deputy assessor in 1890 and from 1893 to 1898. He placed the following values upon lands along the complainant's main and outside canals in Merced County:

135 First 5 miles (from Fresno-Merced county line to Camp 13):

Main canal	$2.00 per acre	(p. 641)
Outside canal	5.00 " "	(p. 641)

Next 15 miles (to Volta):

Main canal	$35.40 " "	(p. 642)
Outside canal	50.00 " "	(p. 642)

Next 9 miles (to 3 miles beyond San Luis Creek):

Main canal	$5.00 " "	(p. 642)
Outside canal	50.00 " "	(p. 642)

Next 9 miles of main canal (to Stanislaus county line)	$80.90 " "	(p. 643)
Balance of outside canal (1 mile)	80.90 " "	(p. 643)

Mr. McCabe testified that the canal in Merced County runs along an alkali strip for two or three miles (p. 646).

The evidence on this question of the value of complainant's rights-of-way is not entirely satisfactory. Neither side has introduced the expert testimony of a disinterested person who has made a careful survey of all the lands testified to. It is very evident that there is considerable discrepancy between the values given by complainant's witnesses, and those given by defendant's witnesses. It is also apparent that the natural prejudices of the parties have influenced them to some extent. I have, therefore, concluded to average the testimony of the witnesses for the complainant, and also average the testimony of the witnesses for defendants, and give equal weight to each of such averages in arriving at a general average.

Fresno County: The average of the values placed upon the land in Fresno County, along the canals, by complainant's witnesses,
136 is $18.05, and that of defendant's witnesses, $3.45 per acre. The general average is therefore $10.75 per acre.

Dos Palos system: The average of the values placed upon the lands along the Dos Palos canal by complainant's witnesses is $70 per acre, and that of defendant's witnesses $30.00 per acre. The general average is therefore $50.00 per acre.

Merced County. The average of the values placed upon the land in Merced County along the canals by complainant's witnesses is $59.33, and that of defendants' witnesses, $46.47. The general average, therefore, is $52.90.

Stanislaus County. The average of the values placed upon the

lands along the canal in Stanislaus County by complainant's witnesses is $112.50, and that of defendants' witnesses, $90.00 per acre. The general average is therefore $101.25 per acre.

The method pursued above of averaging the values of the land along the canals given by the different witnesses gives an approximate average value of the land, as the number of acres in the right-of-way for each mile of the canal is about the same, and the Outside Canal extends practically from the headworks to the Merced-Stanislaus county line, and the parallel canal is practically limited to Merced County and extends practically across such county.

The greatest differences between the witnesses of complainant and those of defendants are in Fresno County, the defendants' witness (Mr. Pfitzer) placing a low value on the land over which the canal runs in said county on the ground that it runs largely over
137 an alkali strip. Witnesses for complainant do not seem to have taken this into consideration, testifying as to the value of land along the canal. And it does not appear from the testimony that it is not the fact that the canal runs along an alkali strip.

In conclusion, it seems to me that a valuation of $10.00 an acre for the land along the canal in Fresno County, $50.00 an acre in Merced County, and $100 an acre in Stanislaus County, would be a reasonable valuation under all the testimony. In making the general averages given above I did not include the Dos Palos System, but such inclusion would not alter such general averages, as most of the irrigated lands of the Dos Palos system are in Merced County, and the testimony shows that the value of such irrigated land is about the same in Fresno and Merced counties, and the general average for the Dos Palos system, under the testimony, given above, is the same as my average for Merced County, namely, $50.00 per acre. A portion of the irrigated lands of the Dos Palos system is in Fresno County, and the inclusion of such lands in arriving at the general average for Fresno County would tend to raise such general average slightly; and I have taken such fact into consideration in fixing the value of lands in Fresno County at $10.00 per acre.

Taking the acreage of complainant's rights-of-way from complainant's Exhibit No. 26, which is the valuation of complainant's properties by W. C. Hammett, we have the following:

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Fresno County	1,419.84 acres
Deducting land at headworks	78.44 acres
Leaves	1,341.40 acres
Merced County	2,193.1 acres
Deducting land at Quinto Section House	154. acres
Leaves	2,039.1 acres
Stanislaus County	287.5 acres

At the values found above, the total value of complainant's rights-of-way would be as follows:

Fresno County	1,341.40 acres at	$10.00.....	$13,414.00
Merced County	2,039.1 " "	50.00.....	101,955.00
Stanislaus County....	287.5 " "	100.00.....	28,750.00
Total			$144,119.00

As to the value of the land at the headworks, 78.44 acres, the evidence (pp. 17, 21, 32, 46, 135, 608) shows that such lands are more valuable than the average of the land along the right of way in Fresno County, and the testimony ranges from $5 to $30 per acre. Under all the testimony I conclude that an allowance of $20 per acre for this land is reasonable, which would be $1568.80.

As to the land at Quinto Section House, 154 acres, I find no testimony particularly directed towards this piece of land. I will allow the average amount fixed for Merced County, $50 per acre, being $7700.00.

There is also to be added, Los Banos lots, six at $100, $600.

This makes a total value of the rights-of-way and other
139 lands of $153,987.80.

Miscellaneous Items.

To the foregoing estimates of present values of complainant's property should be added certain items of personal property kept on hand and which were not contained in Mr. Goodwin's report, and amounting to $8,930.84.

Interest on Investment During Construction.

In computing the cost of reproduction of the canal it is conceded that an allowance should be made for interest on investment during construction, and both parties take 7 per cent as such interest. This interest should be computed on all the properties without a deduction for depreciation. Such amount on the cost of reproduction as found by me, to wit, $907,929.06, amounts to $63,555.03 (see p. — hereof).

Fund for Operating Expenses.

Complainant also claims that there should be an allowance made of the sum of $40,000.00 for money necessarily kept on hand at all times.

Upon this point Mr. Merritt, complainant's secretary, in reply to Q. 203 (p. 174), testified:

Q. During the time that you have been secretary, what has been the general amount that you have reserved from dividends—from the profits rather—for the purpose of running the business?

A. For many years we have reserved $20,000 at the time
140 that the annual dividend was declared, in anticipation of expenses which will accrue before the next annual revenues are due, and at the time that that rule was adopted it was a reason-

ably fair estimate of those expenses. As the systems have been enlarged and our expenses increased, and litigation in defense of water rights and water rates has arisen, it is as a matter of fact entirely inadequate. We never have changed our custom, but the result has been that at many times we have overdrawn the treasurer's account to considerable amounts."

Q. About what would be the necessary amount to keep the company running during the year, without overdrawing anything?"

A. At least twice that.

Q. Is your revenue a steady one per week or per month, or does it vary during different times of the year?

A. In that respect conditions have changed of late years very much. Formerly the revenues came in during the months of July and August each year very largely. The bills were all due on the 1st day of July of each year, and we made collections as vigorously as possible during the ensuing two months, but of course were not able to collect all, so that the revenues were coming in in smaller amounts during the remainder of the year, but in the main, July and August were our months for the receipt of revenues. When the litigation commenced with Stanislaus County a good many of the people there conceived the idea that it would be an advantage to them not to sign the annual contract which we required all persons to sign who obtained water for irrigation on credit, and
141 stated payments in advance arose at that time, so that more or less revenue was received at other times of the year than in the months of July and August, depending on when any particular irrigator wished to get water for irrigation. That describes the condition of things up to the 30th of June last.

Defendants claim that this item, $40,000.00, is entirely improper; that such would be part of the expense of maintaining the canal and should be charged against and paid out of the earnings only. It seems to me that if it is necessary to keep on hand a fund of $20,000.00, and if such fund must be reserved out of the profits, which would otherwise be applicable for payment as dividends, the retention of such a fund is equivalent to an investment of such amount. While Mr. Merritt testifies that $40,000.00 is the amount needed, but that $20,000.00 is the amount which it has been the practice to retain for this fund, and that they have found it necessary to overdraw the treasurer's account, he has not shown what particular sums have been drawn, to form the basis of his estimate of $40,000.00. He also states that under the present system conditions have changed, and that more revenues have been received during the year than formerly, but he has not shown what amount of money is taken in, and when, during the year, by reason of this changed system, nor does it satisfactorily appear that this change referred to is entirely of a temporary character. I am of opinion that a greater amount than $20,000.00 is not sufficiently supported by the testimony, inasmuch as it was in the power of complainant to show precisely the amount of its yearly revenues as to
142 time when the same was collected, and also the amounts of its alleged overdrafts on the treasurer. I will therefore allow the sum of $20,000.00 on this account.

85

Fences.

Complainant, in its opening brief, wherein it sets forth its properties and values, commencing at p. 25, does not include in the list of its properties any claim for fences. On the hearing complainant offered certain testimony in regard to the value of the fences along the canals, and in its reply brief (pp. 13 and 14) complainant states that the omission of these fences from the opening brief was due to an oversight and not to any intentional waiver of its claim thereto, and that they have a total of 286 miles of fences, which, at the valuation claimed, $148.50 per mile, make $42,471.00, and they have put this valuation into their claim at the conclusion of their reply brief (p. 33). In their reply brief (p. 13) it is stated that there are 143 miles of fences along the canals, at a value of $21,235.50, and complainant states: "We were unable to prove that the company itself built these fences, but the books of the company refer to its fences as early as 1877 (testimony, p. 219). If we admit that the adjoining owners built the fences, still, if the canal company should fence its right-of-way, it would be liable for one-half of these fences (Civil Code of California, sec. 841). Undoubtedly a new company would be compelled to pay the cost of these fences, if they attempted to condemn a right-of-way through this country."

Mr. Jos. PFITZER, called for defendants, testified that "be-
143 low the main canal, wherever the land is in alfalfa fields or belongs to different parties except Miller & Lux, it is fenced in fields," and that these fences were put up by the parties that owned the land (p. 611 of the testimony). On cross-examination Mr. Pfitzer testified:

X. Q. 266 (p. 637). Where do you gather your information from as to who put those fences up? Is that just what you have got from hearing people talk?

A. I know it to be a fact. Every man fences his own land.

In reply to X. Q. 267 he further states: "I will answer that question this way, that I built a piece myself, and I seen neighbors build them and fix them up, and there has been fences built that I never asked the parties who built them. I never asked the parties whether they built them or whether they didn't build them. But I seen them fences up and I seen them kept up, and I seen people build them. In fact, I know that they built those fences. I know the parties that have built them. I have met the parties. I know the parties built their fences there because they are over the land.

X. Q. 268. You don't pretend to be able to swear, do you, that all the fences all up and down that canal were built by the people, the owners along the canal, and not by the canal company? You don't pretend to swear that, do you?

A. I could say the canal company built a few fences for corrals around their section-houses and horse yards, probably.

In our inquiry as to the present value of complainant's properties,
we have followed generally an estimation as to the cost of
144 reconstruction at the time that the rates in question were fixed. But such cost of reconstruction must be applied to

property that is owned by the complainant. I am of opinion that if the fences do not belong to complainant they are not entitled to have them valued as a part of their property. If their property is made more valuable by reason of such fences being there, it is possible that such circumstances should be taken into consideration, but it does not necessarily follow that such increased value of the land would be the cost of the fences; and no testimony was offered placing any other valuation on such fences. The owners of the land undoubtedly would have the right to remove these fences without consulting the canal company. It does not appear that the canal company maintains these fences, or pays any portion of the maintenance or has any interest whatever in them. And the only fences sought to be valued by the testimony are the fences which appear to have been put up by the farmers and owned by them.

Summary.

From the foregoing I find the cost of reproduction of complainant's properties to be as follows:

145 Earthwork	$429,495.28
Physical Structures	315,515.14
Rights-of-way	144,119.00
Land at headworks	1,568.80
Los Banos lots	600.00
Land at Quinto Section House	7,700.00
Additional personal property (complainant's brief, p. 27)	8,930.84
Total	$907,929.06
Interest at 7 per cent. on investment during construction	63,555.03
Total cost of reproduction	$971,484.09
Deducting depreciation of	94,654.54
Leaves a present value of	$876,829.55
Adding amount of money necessary to be kept on hand	20,000.00
Makes the total sum upon which complainant is entitled to receive at least 6 per cent. net income	$896,829.55

Depreciation.

Mr. Goodwin's estimate of cost of reproduction of physical structures is $420,686.87. Mr. Hammett's depreciation calculation of such structures is $115,046.56. This is a percentage of depreciation of 27.13. Mr. Henderson's estimate of structures is $173,322.80, to which he adds 10 per cent. for engineering and supervision, and

10 per cent. for contingencies, which would be $34,664.56, making $207,987.36 as his estimated reproduction of structures. His depreciation estimate of the same is $70,729.69, being about 34 per cent. The difference as to the total proportion of depreciation so estimated is comparatively slight. A mean between the two estimates would be about 30 per cent., which I shall find is the average amount of depreciation.

146 Appreciation.

Complainant also claims that the earthwork has actually appreciated in value, effectiveness and earning power by the lapse of time, by reason of the packing of the banks and the silting of the canals, thus avoiding breaks and preventing loss of water by seepage (complainant's brief, p. 28). The only witness produced by complainant to show the value of such alleged appreciation is Mr. Hammett, complainant's engineer. The testimony is somewhat lengthy on this point. I shall endeavor to state Mr. Hammett's theory of the alleged appreciation and his method of computing its valuation. At p. 432 he advances the proposition that a newly built canal is less effective than an old canal by reason of the greater amount of seepage and loss of water than a new canal, due to the looseness of the soil, due to the banks not being compacted, and causing washouts and "blow-outs," as it is called, making a new canal rather precarious of operation; that after it has been operated a few years it gets in condition; that it stays about the same from year to year, caused by the fact that the walls and the floor settle, and the silting; so that both seepage and leakage from the gates are largely stopped; that in order to make his estimate it is necessary for him to estimate the loss of water by such seepage in a new canal and to calculate the total seepage and evaporation. He further testified as follows:

Q. 49 (p. 432). Have you given attention to the amount of loss from seepage and evaporation in canals?

147 A. I have, in a general way, but I have been unable to get accurate figures on them. Figures are very hard to get, due to people wanting to get water through and not caring much about the measurements.

Q. But have you experimented yourself in order to determine the amount of loss by seepage and evaporation in canals, new and old, and otherwise?

A. I have with old canals, but, as I say, on new canals I have been unable to get figures, except in a general way, because we have no new canals of our own, and with other people's canals, they do not seem to care much about the figures; and so it is impossible to get accurate figures from them. They do, however, state that the loss is in a general way so much, but there is nothing accurate in those figures.

Q. Well, irrespective of the exact figures, are you able to approximate the difference in loss between a new canal and a well silted canal, from the experience you have had.

A. I am able to assume it at a quantity which I am sure is less than the actual quantity. That is the best I can do.

Q. 54. What examination, if any, have you made of the canals of complainant in order to determine the amount of actual seepage and evaporation in the complainant's system of canals, as they now exist and during the year 1907-'08.

A. In August, 1907, I had measurements taken over the whole San Joaquin system and determined the amount of loss of water during a short period during that month; a period of seven days, in fact, was all that I was able to collect proper figures on,
148 due to the inexperience of the man that I had at work on it.
So I had to throw out the first two weeks of their work, and the third week they got in figures which could be taken. Then in 1908 I had continuous measurements taken from the 1st of July until the last of August, to determine the exact amount of loss from seepage and evaporation.

He then states that he has computed this loss (p. 434), and that 33.1 per cent. of the total intake was lost by seepage and evaporation.

At pp. 435-436 he states the percentage of loss as to different counties.

Q. 95 (p. 439). Now, you stated that your experience permitted you to come to at least a minimum amount that would be lost in a new canal, and for the first few years of its construction. Will you state what that experience has been in that regard and what is the amount of loss in a new canal as compared with this canal?

A. My knowledge of that is mainly from observation of a few small, new ditches, and of hearsay in regard to actual canals where water has run in on new canals. For instance, we have at the end of our outside canal a realty ditch which was put in during the past year, and we know how much water per acre it took in that ditch to irrigate. We know that that was about six or eight times the amount that it takes per acre to irrigate under our own canal. Therefore we assume that the extra quantity of water was lost in the canal, due to its being a new canal. It would be probably about five times
149 the amount that is being lost per mile in our own canal.
Then I have been told by people who were connected with the canal system—the San Joaquin system—that at the time when the extension of the canal was made from Los Banos Creek to Orestimba Creek, that between 400 and 500 second feet were turned into that canal first, in attempting to take it to the Orestimba Creek, and that very little of the water reached Orestimba Creek; that is, that the loss for that—about thirty miles—was about 400 second feet for thirty miles.

Q. 97 (p. 440). Take this entire canal system, what would be your opinion as to the amount that it would lose on the average during the years before it got into what you might call a perfect condition?

A. (p. 441). I should say that it would lose three times as much at the start as it would after, say, eight years or so, and that after eight years or so it would practically be silted, so that the loss would be very little more than it would be after any succeeding number of years.

He then states (p. 441) his method of computation, which is as follows:

Answer to Q. 99. The theory that I went on was this: that if the canal was constructed anew that there would be a very much increased quantity of water lost in that canal in the first few years, as I have stated. The canal is entitled to a certain quantity of water. We have takers for all that water, and therefore the second
150 feet lost during this few years while the canal was silting up is an actual loss in dollars and cents. I consider that loss as a block amount equal—that is that the loss in one year—the present loss in one year—that is the increased loss because of the canal being new, over this eight years would be equal to six times the present loss in one year. This is due to the fact that at first the first year it would be three times as much, but the second year it would be very much smaller, that is, the change in loss for that eight years would not run in a straight line, but would run in a curve approaching the horizontal; that at the end of eight years the loss would be the same from year to year, and that the total loss of those eight years would amount to, as I say, a block amount equal to six times the present amount in one year. That amount would be approximately 125,000 second feet for twenty-four hours. I give this a value equal to the value per second foot of every second foot which we sold during the past season, 1907-1908. This average amount received for every second foot that we sold was $1.05 per second foot for twenty-four hours, which made the value of this 125,000 second feet of excess loss, due to a new canal, to be worth $125,250.

X Q. 258 (p. 485). You never had occasion before that (his employment by complainant) to estimate the loss of water by seepage or evaporation in an irrigation canal under conditions exhibiting the same climate and the same or similar soil to that obtaining in complainant's canal—had you?

A. I had not.

151 Q. 260. Well, you had never had experience in making those measurements before, had you?

A. I had never had experience in making those measurements before.

As heretofore stated, Mr. Hammett entered into complainant's employ in the year 1907.

The total amount of the appreciation claimed is shown by complainant's Exhibit No. 25, which is Mr. Hammett's calculation of depreciation of structures and appreciation in earthwork, such appreciation in earthwork being $129,365.

Defendants deny the theory of appreciation of earthworks and its application, and contend that no such alleged appreciation of earthworks is proper in arriving at the present value of the canal, for the reason stated by Mr. Henderson in his testimony (defendants' brief, pp. 17, 18; testimony of Mr. Henderson, p. 733).

In reply to the question (Q. 58, p. 732), "I ask you whether, in your opinion, any sum of money should be added to the value of these canals on account of or as representing in any way the loss of any water by seepage?" he answered:

"If the valuation of the canal should be increased in regard to its cost or in regard to the value by the silting up of the canal to the extent of preventing further percolation, I should not think so, inasmuch as in the design of the canal it is one of the elements necessary to have the canal sufficient to allow for seepage and evaporation in order to irrigate a certain area; and in the construction of the canal to irrigate a given number of acres due consideration
152 is given to that part of it; and therefore it follows that the original cost of the canal covered the feature of seepage; and that afterwards, if the seepage is reduced, it would simply give a greater earning capacity of the canal on the same investment."

In determining the question of present value, the method which has been followed, and which is conceded by both parties to be the proper method, was to estimate the present cost of reconstructing the physical structures and earthworks of complainant's canal, together with such properties as might be incident thereto. This method I have followed, as appears from the foregoing estimates. Having ascertained such cost of reproduction, the question is presented, in what respects is the canal at the time of the application of the rates in question more or less valuable than such newly constructed canal. For the purpose of ascertaining such present value, it is admitted that the extent to which the canal has depreciated should be deducted from such estimated cost of reconstruction. Likewise it would seem to me that if by reason of a lessened amount of percolation the canals of complainant in their present condition are capable of delivering more water, thereby producing greater revenues to the company, it would be of more value than a canal estimated on the basis of the reconstruction figures aforesaid. From Mr. Henderson's statement, that if afterwards the seepage is reduced it would simply give a greater earning capacity of the canal on the same investment, it seems to me that it would necessarily follow that the canals would be more valuable by reason of such
153 increased earning capacity. This is of course assuming that the canal company in this instance would be able to sell the waters which would be represented by the increased capacity of the canal.

The only testimony offered to establish the valuation of this allegal appreciation is that of Mr. Hammett. Mr. Goodwin made no calculations of either appreciation or depreciation, as heretofore stated. In order to arrive at the increased carrying capacity of the canals by reason of the less amount of seepage than would exist in new canals, it was necessary for Mr. Hammett to ascertain, first, the amount of water lost by reason of seepage in the present condition of the canals; and, second, the amount of water that would be lost by seepage on the assumption that the canals were new. That Mr. Hammett as an engineer is competent to measure loss by seepage in the present canal, I believe satisfactorily appears by reason of his qualifications as a hydraulic engineer, but it is equally important that he shall be competent to estimate the amount of seepage in the new canals, for without such an estimate no calculation as to the advantage of the present canals over the new canals could be made.

The excerpts from the testimony above stated, I am of opinion, show that Mr. Hammett does not possess the necessary experience, and has failed to qualify as an expert witness to testify on the point of the seepage in new canals. To repeat his testimony on p. 433, that he found it impossible to get accurate figures on new canals; and at p. 439 that his knowledge "is mainly from observation of a few small, new ditches and of hearsay in regard to actual canals
154 where water has run in on new canals," as well as other portions of the testimony quoted, shows to my mind that Mr. Hammett is not a competent witness on this point. The burden of proof in establishing the amount of such alleged appreciation is on the complainant, and complainant must establish the same by satisfactory evidence.

I do not find that the evidence offered on this point is satisfactory. Aside from the unsatisfactory character of such evidence, it seems to me that, admitting that such canals have appreciated in value, the amount of such appreciation would be affected by certain elements of depreciation caused by the collection of berm in the canal, which has been testified to in this case, and also by silting of the canal, which necessitates an expense of cleaning. Complainant contends that there is at present very little silt in the canals. Mr. Goodwin (testimony, pp. 123, 124) testified, in comparing the relative condition of the canal in 1906 and 1896, at which latter date he made an examination of the canal on behalf of the board of supervisors of Stanislaus County, that at the time of his examination in 1906 there was practically no silting at all, that the canal had practically had its cross-section restored. Complainant also calls attention to the fact that one of defendants' witnesses, D. M. Rouse, testified that while he had not been over all the canal, some of it he had been over, and that he had done considerable work on it, cleaning it out; and that the canal is in better shape than it was a few years ago, and that there was no silt where he had seen. (Defendants'
155 brief, p. 5; testimony, pp. 123, 124, 587.) Mr. Rouse was formerly complainant's superintendent. Notwithstanding Mr. Goodwin's statement that there was practically no silt, which testimony referred to the time of his examination in 1906, I find that complainant has charged in its maintenance accounts for the year ending June 30, 1908, the sum of $15,760.44 for canal cleaning, the largest amount appearing in any one year. A statement of the amount of canal cleaning will be found on complainant's reply brief, p. 27. The Maintenance Account for the year ending June 30, 1908, will be found at p. 47 of complainant's opening statement. Defendants' witness Sloane has estimated in his report of complainant's properties a depreciation of earthworks by reason of silting to an amount of $30,000.00. I find that in Mr. Goodwin's report to the supervisors of Stanislaus County in 1896, he followed this method of deducting from the value of the earthworks an amount for depreciation by silting, as appears from the testimony (p. 116), in a certain excerpt taken from Mr. Goodwin's testimony before the Board of Supervisors of Stanislaus County. In reply to the question (p. 116):

Q. How much in your calculation of the depreciation of $51,000.00 between the cost of construction and the present value did you allow for the fact that the canal was silted?

A. I allowed the whole silting of the canal as 223,767 yards.

Q. How much do you estimate it would cost to clean that?

A. Ten cents.

156 Q. So that accounts for $22,376.70 of the $51,000.00 depreciation from the cost of construction to the present value.

Mr. Goodwin in the case at bar testified that both appreciation and depreciation were questions to be considered in the valuation of these properties. According to Mr. Hammett's theory the canal would reach its maximum capacity in eight years. The canals concerning which Mr. Goodwin testified before the supervisors in 1896 had been constructed for more than eight years prior to the time of giving his testimony, and had as fully appreciated in value as to the portions of the canal then existing as at the present day. Mr. Goodwin not only made no allowance for appreciation, but, as shown, deducted a sum for depreciation of the earthworks. It is true that complainant would not be bound by Mr. Goodwin's testimony given in such former proceeding, that it may not have urged this theory of appreciation at that time, or that, if the same was urged, Mr. Goodwin did not concede it. I cite this instance mainly for the purpose of showing that a deduction for depreciation of earthworks by silting should be made from the alleged appreciation.

Also, during the first eight years, which Mr. Hammett states is the time required to elapse before the seepage is normal, I take it little or no canal cleaning would be required, as the silting up of the canal to a certain extent is desirable in its early stages,—silting reducing the seepage as testified to by Mr. Hammett. As Mr. Hammett takes the total value of the water lost during these eight years as representing the increased value of the canals in their

157 present condition, it seems to me he should deduct from the value of such water the cost of canal cleaning, during a period of eight years, which is now required to keep the canals up to their normal efficiency. In other words, if a new canal lost $100,000 worth of water in eight years but needed no canal cleaning, and an old canal lost no water but required $100,000 for canal cleaning, the revenue derived would be the same. Complainant expended for canal cleaning and dredging from 1900 to 1908, $80,984.76 (closing brief, p. 27).

After a careful examination of all the testimony on this question, I find I am unable to make either a calculation as to appreciation or depreciation of the earthworks of the canal, and shall assume that the one offsets the other.

158 *Sinking Fund.*

Counsel for complainant (opening brief, pp. 28 and 29) discuss the question of the allowance of a sinking fund to offset the depreciation of complainant's plant. Counsel for defendants (brief, p. 32) claim that no allowance should be made for a proposed sinking

fund to cover depreciation as the amount allowed for maintenance fully covers repairs, and for the further reason that complainant has charged replacements in its maintenance accounts.

This court, in its opinion on application for preliminary injunction, has decided (p. 12 of such opinion) that if a deduction is made from the value of the plant on account of depreciation, then an allowance should be made for such deduction, and added to the annual income to enable the complainant to renew and reconstruct, so as to preserve the integrity of their plant.

In the recent case of Knoxville v. Knoxville Water Company, decided January 4, 1909, the Supreme Court of the United States considers the question of depreciation and the allowance to be made therefor. It is there decided that from the cost of reproduction should be deducted the depreciation to ascertain present value. In part the Court said: "The cost of reproduction is one way of ascertaining the present value of a plant like that of a water company, but that test would lead to obviously incorrect results if the cost of reproduction is not diminished by the depreciation which has come from age and use. * * * It was urgently contended that, 159 in fixing upon the value of the plant upon which the company was entitled to earn a reasonable return, the amounts of complete and incomplete depreciation should be added to the present value of the surviving parts. The court refused to approve this method, and we think properly refused. A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all, the company is entitled to earn a sufficient sum annually to provide not only for current repairs, but for making good the depreciation and replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that, at the end of any given term of years, the original investment remains as it was at the beginning." * * * "It is not easy to fix at any given time the amount of depreciation of a plant whose component parts are of different ages, with different expectations of life."

From this decision I collect that the amount to be returned for depreciation is to be estimated upon the reasonable original cost, and not cost of reproduction, as it is the original investment which must be maintained, and the amount to be returned is the actual depreciation for the year in question. The words above referred to that "it is not easy to fix at any given time the amount of depreciation of a plant whose component parts are of different ages, with 160 different expectations of life" suggest that the life of each structure should be estimated, and that a specific amount should be allowed for depreciation thereof, based upon its cost and estimated life. The total of such amounts would therefore represent the total depreciation allowance.

In the case at bar, complainant's estimates upon which it claims its sinking fund should be based, are upon Mr. Goodwin's estimate

of present cost of reproduction of structures, which it seems to me is erroneous, in view of said decision, unless it can be assumed that present cost of reconstruction would be equivalent to original investment.

Counsel for complainant, in their opening brief (p. 32), suggest a method for computing a sinking fund. This method is substantially that an amount should be set aside annually, which placed at compound interest will produce a sum at the expiration of 33 years equal to the value of the structures as estimated by Mr. Goodwin and stated as $386,384.65, but which sum should be, as heretofore shown by me, $420,686.87. The amount of the fund as calculated by complainant would be $3,388.59. After the submission of this case, complainant filed, on August 17, 1909, under the designation "Correction to Argument for Complainant," a statement suggesting a different method of computing such sinking fund, claiming that the method suggested in its opening brief was not correct. This latter method in brief is as follows: Taking the cost of the
161 structures subject to depreciation and dividing such cost of structures by the period estimated as the life of such structures, to wit, 33 years, would represent the amount of depreciation in one year, and that such amount should be set aside each year. And counsel point out that the former method suggested by them would result that instead of complainant getting 6 per cent. on its investment it would only be receiving an average of 3 per cent. The statement is in part as follows: "The structures cost $386,384.65. For the first year we get 6 per cent. on this sum as a return. But during that year the structures depreciate $386,384.65, or $11,722.60. Next year all we get is 6 per

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cent. on $386,384.65, less $11,722.60. And this goes on year by year until the vanishing point is reached. Now, if we are merely given back at the end of 33 years the amount which we originally invested, or are given an amount annually which invested at compound interest will at the end of 33 years produce that sum, it results that during those 33 years we have not been receiving interest on the amount invested, but on a sum ranging from that sum to nothing, being reduced each year $11,722.60. It results that each year's depreciation amounting to $11,722.60 is complete and immediate, and the company can only be reimbursed by having that sum allowed in the annual maintenance account, instead of the sum of $3,388.59, as heretofore suggested by us."

This latter method I believe is the method contemplated by Justice Moody in the Knoxville case, with the exception that
162 it does not follow that the depreciation each year during the life of a structure would be the same, and the actual depreciation for the year in question should be ascertained. As heretofore stated, this has not been done in this case. As the rates in question are not fixed annually, but remain in force until other rates are fixed, the showing of depreciation in any one year might be more or less than the average amount of depreciation for a number

of years. And for this reason I believe that the method suggested by complainant of taking an equal amount of depreciation each year during the life of the structure is a reasonable method to follow in this case.

I also conclude that it will be sufficiently accurate to take my estimated cost of reproduction of structures as the equivalent of the reasonable original investment, such cost being estimated at $315,515.14. This amount is to be divided by the estimated life of the structures, to give the annual average depreciation.

The question of the life of the structures is one of some difficulty. Mr. Hammett testified in part as follows:

Q. 36 (p. 430). You stated, I think, Mr. Hammett, that in determining the present condition of the value of a structure, you gave a certain length of life to a structure below the water. How in regard to structures above the water? Is the life of such a structure longer or shorter than a structure below the water?

A. A structure generally gives out first over the part of the
163 structure which is alternately exposed to wetness and dryness. That is, wherever it is subjected to wetting and then afterwards dries out, that part rots very quickly. But all parts which are subjected to the weather have a much shorter life than the parts which are protected from the weather. I believe insurance companies generally consider the life of a building to be thirty-five years, but that building is protected by paint from the weather, while a canal structure is not.

Q. What has your experience shown you to be the approximate life of structures below the water, not subjected to alternate wet and dry seasons?

A. I have never seen a structure below water give out at any age, due to the rotting of the timber.

Q. And what has been your experience of the superstructure that is above water? What is the approximate length of life of a structure of that kind?

A. The timber above the water lasts from fifteen to twenty years.

Q. You state that you have never seen a sub-structure destroyed by means of ordinary rotting; but considering its connection with the superstructure, what has been your experience as to the approximate length of life of the entire structure which is partially above and partially below water?

A. You cannot consider the total structure as having a particular life, for when the part above the water gives out a new structure
can be erected on the same floor system, so that you can
164 consider the life of the structure, the life of the part above water by the proportion of the structure which is above water.

Q. And about what number of years does that proportion work out?

A. I figure it as thirty-three years, in general, with modifications according to the structures.

Q. (p. 431). But in general then your figures are based on

your conclusion that on the average you consider that the entire structure would last thirty-three years, and that that would be a fair estimate as to the life of a structure as a whole?

A. Yes.

R. D. Q. 12 (p. 512). You gave some figures here, Mr. Hammett, as to what you gave as your opinion as to what might be termed the average life of a structure in these canals. I would ask you if that meant the life of them while being used and properly used, being taken care of during that period?

A. Not exactly. I would consider that that would be the life of a structure. Of course, proper care is to be taken of a structure anyway. But it means without any repairs being made on it, the actual life of a structure doing its duty.

R. Q. D. 13. Well, what I mean is, while the canal is being used? There are things that have to be repaired now and then, not talking about replacements, but breaks and ordinary things of that kind, in order to keep it going.

165 A. With those replacements, with those repairs, the structures would probably last a great deal longer than the life given in my previous estimate. I should say that in a general case, by making repairs right along the life could be indefinitely prolonged.

He further explains his testimony in this regard at page 556.

Touching on this question, Mr. Goodwin testified as follows (p. 115):

Q. I understand your testimony now to be that while you observed some depreciation, that you made no detailed examination as to that particular matter in 1905, and are unable now to give any estimate of such deterioration. Is that so?

A. As to each structure, I don't think I could. Depreciation and appreciation are two things to be considered in a canal system. Structures like stop gates, outlet gates, waste gates, in a way appreciate in value as to their usefulness of delivering water or controlling water. For instance, perhaps two-thirds or three-fourths of the lumber in a structure is in a base. That portion of it does not depreciate, in fact I think it appreciates. A new structure would not hold the water. The longer the structure is in, as long as the lumber remains solid, it is a better structure than a newly constructed one. The superstructure is more or less, or the one-third or one-fourth of the cost of the gate would be more or less subject to depreciation, probably pretty severe. But that is always maintained and to arrive at the number of years or the percentage

166 of depreciation, I think that is a wide question, and at most would be only theoretical.

Mr. Henderson, called by defendant, testified that in his opinion the average life of a superstructure would be about fifteen years (pp. 802, 803, testimony).

As to sub-structure, he testified:

Q. 428 (p. 803). Now, what is your estimate of the life of a substructure?

A. Well, the life of some sub-structures might be indefinite. It depends upon the value of the structure for the purpose of rebuilding it. If a sub-structure is just the thing which you would require in rebuilding a new structure, and had not deteriorated, it would be practically of the same value as when it was put in.

As to the proportion of the structures which are sub-structures, he testified:

Q. 431. Is half of the structure a sub-structure?

A. No, I should say not.

Q. 432. Is a third of it?

A. No, I do not think there is a third of it that would be of value at that length of time (evidently referring to his average period of fifteen years).

The difference in the length of life between the superstructure and the sub-structure renders it difficult to fix an average for the whole structure. I will adopt the average of 33 years given by Mr. Hammett, such life being without such repairs as would tend to
167 prolong the life of the structures, and including only the minimum amount of repairs referred to by Mr. Hammett. Dividing $315,515.14 by 33 gives $9,561.06 as the average annual depreciation.

Counsel for defendants, in their reply to complainant's Correction to Argument, filed August 20, 1909, contend that the sinking fund claimed by complainant should not be allowed; that an inspection of the maintenance account shows that plaintiff expends large amounts of money for repairs of structures and head-gates; that Mr. Merritt testified that the item of labor, $11,034.05 in the maintenance account for the year ending June 30, 1908 (Exhibit 16) included labor for repairing bridges and making measuring gates, and that the maintenance accounts included the annual cost and labor of repairing the different structures on the canals (testimony, p. 416), and claim that the depreciation of structures is fully covered by the moneys expended by complainant in its so-called annual maintenance accounts.

It may be difficult to distinguish between ordinary repairs and such repairs as amount to a substantial reconstruction, that is, tend to prolong the life of the structure beyond the term of life fixed as the basis on which the depreciation is computed. In examining the maintenance accounts I find many charges of considerable amounts which are claimed under the head of repairs. In the account of the year in question, ending June 30, 1908, there is an item of Firebaugh Weir, $1,537.57; repairs to headworks,
168 $1,574.86. In the year ending November 25, 1907, there is an item of measuring boxes, $593.34; repairs of headworks, $750.43; Poso head-gate and weir, $1,537.50; repairs to Los Banos creek weir, $682.59; in the account of 1905, remodeling gates, $13,813.58. This latter item is either a betterment or replacement. In the account for 1904 appear the following charges: repairs to headworks, $2,691.91; remodeling measuring boxes, $5,069.79. These maintenance accounts also show large sums for labor, and as claimed

by counsel for defendants, a portion of such labor was employed in the construction work.

In regard to the expense account of June 30, 1908, the item of labor, $11,034.05, Mr. Merritt was asked whether such labor included the repairing of bridges and the making of certain measuring gates referred to, and replied, "Oh, certainly" (p. 416). If such measuring gates represent new construction, it would not be a proper charge against the maintenance account.

At p. 704 of the testimony, Mr. Merritt testified as follows:

Q. 34. And you have in that year, 1907, "Poso head gate and weir, $1537.57." Was any of that new construction?

A. No, that was replacement of an old structure.

Q. 36. Was there not a new weir put in near the Poso headgate at that time?

A. Only to replace an old one.

169 Q. 37. And there was not an entirely new weir put in?

A. Not according to my information.

The replacement of an old structure should not be charged in the maintenance account, if complainant claims an allowance by way of a maintenance fund for replacements.

Mr. Merritt further testified as follows (testimony, p. 416):

E. X Q. 21. Now, in one item you have got "Labor" and "Piles," in that same account, $822.08; "measuring boxes, $1,247.72;" and "Orestimba, $2,760.47;" so that in these maintenance accounts here that you have put in evidence in this testimony, you have practically covered what might be called depreciation?

A. Yes, in a sense. The cost of repairs and replacements to prevent deterioration in the value of the company's property is of course charged in our annual maintenance account.

Mr. Merritt here testifies directly that the cost of repairs and replacements to prevent deterioration is placed in the annual maintenance accounts. Such being their practice, to allow them a sinking fund in addition would result in a double allowance for deterioration.

There is no testimony by which I can ascertain what charges, or portions of charges in the maintenance account of 1907-8 should be charged to replacement. The following items are probably for replacements or such repairs as amount to substantial replacements.

170

Firebaugh Weir	1,537.57
Repairs to Headworks	1,574.86
San Luis Outside Waste Gate	407.41
	$3,519.84

But there is the item, labor $11,034.05, which Mr. Merritt admits includes labor in making measuring gates. Such gates would be either new construction or replacement. In either event the expense should not be charged to maintenance. How much should be deducted on this account there is nothing to indicate.

After a very careful examination of the matter I find I am unable to even approximately estimate what sum, if any, should be added

to the maintenance account for depreciation. Complainant is at fault in not keeping a separate account for replacements. They are asking for a fund to make replacements, yet the items that should be paid for out of such a fund are confused in the general maintenance charges.

I have ascertained the amount of such fund to be $9561.06. If this amount is to be added to the maintenance side of their account, it should clearly appear that such account does not contain charges for replacements. To my mind it clearly appears that complainant is not entitled to this fund in addition to the allowance of the items above referred to, charged in its maintenance accounts. I shall allow the items above referred to, aggregating $3,519.14, and the item labor $11,034.05, to remain in the account as charged, but shall make no additional allowance for replacements.

171 In coming to this conclusion, I wish to refer to the language of the Supreme Court of the United States in the Knoxville case, cited above, that it is the plain duty to the public, of a public service corporation, to provide out of its earnings for its replacements. This the plaintiff has not done, at least it does not appear in evidence that it has provided a fund out of which replacements are to be made. The court further states that if the company fails "to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, the fault is its own, and that the true value of the property then employed for the purpose of earning a return cannot be enhanced by a consideration of the errors in management which have been committed in the past.

Under complainant's practice of charging replacements to its maintenance account, it will be seen that when the time comes to replace a large structure, such as the San Joaquin River weir, which may cost as much as $40,000.00, the rates, if the same are to be adjusted to allow of a net income of at least 6 per cent. for the year in which the replacements are made, would be increased to such an extent as to be unreasonably burdensome.

172 *Actual Cost of Complainant's Properties.*

Counsel for complainant, in their opening brief (p. 31), refer to the actual cost of complainant's plant in corroboration of the estimates of value claimed, and that such cost was not less than, and probably more than, $930,000, apart from the land and water rights. It is admitted that the item of cost can only be considered for the purpose of corroboration or of testing and of comparison. And counsel for complainant state, at p. 44 of their brief, that in determining the value of property for the purpose of fixing rates, the cost of that property is not to be, in any sense, a standard, although that cost may be looked to in corroboration or contradiction of other evidence.

A statement of such cost is contained at pp. 32 and 33 of complainant's brief, being taken from complainant's Exhibits Nos. 14 and 15. Considerable testimony was taken relating to such cost, it being claimed by defendants that the cost, as shown by complainant's books included certain items which

should have been charged to maintenance. I do not deem it necessary to review the testimony under this head. Such testimony will be found generally at pp. 175, 178, 201, 218, 228, 235, 237, 279, 280, 290, 236, 239, 240, 396. It appears that most of the complainant's books were lost in the fire of April 18, 1906, in San Francisco. (Testimony, pp. 151, 243, 244.)

In the case of Stanislaus County v. San Joaquin & Kings River Canal & Irrigation Company, 192 U. S. 201, in commenting
173 upon the evidence offered in that case relating to the cost of complainant's works, the Supreme Court says: "In this case much of the total amount expended in the course of the construction of the works was not proved by those who made such expenditures, and the items and total amount of the cost of construction were only proved by the books. What such books did not prove was the reasonableness of that cost, its propriety or necessity. There were statements that appeared in the minutes of the meetings of the shareholders which were put in evidence, that showed at least a dispute as to the proper cost of the works, and at one of these meetings a shareholder said that there had been a waste in the management of the affairs of the company, amounting to $350,000.00, which was caused by the chief engineer, who had been in charge of the canal, and that his mistakes had cost the company a good deal of money. There would seem to have been more of a dispute as to who was responsible for this loss than over the fact of loss. At another meeting, held in December, 1881, the president had said, in his remarks to the meeting, that, in his opinion, with careful management, the canal would pay a fair revenue on what it ought to have cost. Although these minutes did not conclusively prove the fact of the excessive cost of the work, yet where the books of the company were substantially the only evidence of the amount expended, and there was no other satisfactory evidence of the reasonableness of the expenditures, it would not be surprising if the board should
174 have regarded the statements in the minutes relating to excessive cost as a justification, if not a requirement, for the reduction of the cost of construction upon which rates might be fixed, by at least the amount mentioned, $350,000.00."

Much of this same evidence has been introduced in this case, and complainant has not in this case offered testimony for the purpose of proving the reasonableness of that cost or its propriety or necessity, other than the testimony of complainant's secretary, Mr. Merritt, whose testimony was based upon his opinion derived from the books. And as counsel for complainant admit that the only use that should be made of evidence as to the cost is in corroboration or contradiction of the evidence, I do not deem it necessary to enter into a discussion as to whether such cost was in fact reasonable and necessary.

Valuation of Complainant's Water Right.

Complainant claims that in estimating the value of its properties it is entitled to a valuation of what it terms its water right. Counsel state (p. 35 of complainant's opening brief): "The complainant is

admittedly owner of the right to take from the San Joaquin River a quantity of water at least sufficient to irrigate 80,621 acres irrigated in 1907-8 and not less than 760 cubic feet per second, awarded in its favor for non-riparian land as against the only riparian owner who has contested its rights. What is the value of that right?"

175 Complainant suggests two methods of valuation. First, that the value of the right to have water to irrigate land may be fairly measured by the excess of the value of the land with such a right over that which it would possess without such a right, and then proceeds to show that under the testimony the net value of such rights would be $1,918,046. The second method suggested is to take the testimony of experts. The defendants' witness Henderson testified that the right to divert one cubic foot of water would cost not less than $3,000 (p. 824). According to his testimony the value of complainant's right would be 760 feet at $3,000, $2,280,000 less cost of necessary works, $1,348,852; net value of right, $931,148. Professor Fortier, in his affidavit on motion for injunction (taken as testimony), pp. 931-2, states that the value of such a right is on the average $25.00 per acre. We would then have the following:

80,621 acres at $25.00 an acre	$2,015,525
Less works as above	1,348,852
Net value of right	$666,673

According to these two methods the amount involved is somewhere between $666,000.00 and $1,900,000, and we would certainly be safe in assuming the value fixed by defendants' witness Henderson, over $900,000. (Complainant's opening brief, p. 37.)

In their points of law (p. 42) counsel give a list of cases in support of their claim that allowance for the value of such water
176 right must be made in this case, and contend that the word "property" is not limited to physical or tangible things, but includes everything, tangible or intangible, which is the subject of ownership and which cannot be taken for public use without just compensation; that within such rule are included franchises, goodwill, water rights, going concern and all similar rights; that the Act of 1885 (under which the Boards of Supervisors are authorized to fix rates) ought to be construed as including such things, and if not so construed is opposed to the constitution of the United States as well as to that of the State of California; that a water right is property within the meaning of this rule.

Counsel for defendants claim that the value of the water right cannot be allowed, and cite certain cases (brief, p. 37).

The Constitution of the State of California, Section 1 of Article 14, of the Constitution of 1879, reads in part as follows: "The use of all water now appropriated, or that may hereafter be appropriated for sale, rental or distribution, is hereby declared to be a public use and subject to the regulation and control of the State in the manner to be prescribed by law." The water rates in question are fixed by the supervisors of the respective counties by virtue of

the provisions of the act of March 12, 1885. Section 1 of the act recites in substantially the same words the foregoing quotation from the Constitution, as follows: "The use of all water now appropriated or that may hereafter be appropriated, for irrigation,
177 sale, rental or distribution, is a public use, and the right to collect rates or compensation for use of such water is a franchise, and except when so furnished to any city, city and county, or town, or the inhabitants thereof, shall be regulated and controlled, in the counties of this state by the several boards of supervisors thereof, in the manner prescribed in this act." After providing the method by which the board of supervisors may be petitioned to fix rates, Section 4 of the act reads in part as follows: "At the hearing of said petition the Board of Supervisors shall estimate as near as may be the value of the canals, ditches, flumes, water-chutes and all other property actually used and useful to the appropriation and furnishing of such water, belonging to and possessed by each person, association, company or corporation, whose franchises shall be so regulated and controlled."

It will be noted that in enumerating the properties to be valued, no mention is made of the valuation of the water right, but the property to be valued is described as all property actually used and useful to the appropriation and furnishing of such water. I agree, however, with counsel that if such water right is property of the complainant, that the same could not be taken for public use without compensation; also that the value of the water-right in this case is a very valuable one, and under the testimony its valuation is approximately $1,000,000. Also I agree with counsel that a water right is property, and cannot be taken from the owner thereof for a public use without compensation. The question presented,
178 however, is whether complainant is the owner of the waters that it delivers to its customers. All the cases cited by counsel for complainant sustain the proposition that a water-right is property and cannot be taken for a public use without compensation, but all of such cases, so far as my investigation of the same has shown, refer to the taking of the property from the user of the water, that is, the riparian owner, who had acquired a right to the water by reason of appropriation or otherwise, and do not refer to the taking of the water by the public from a corporation or person who acts as and whose business is that of a distributor.

Counsel in their argument state that there were no cases directly in point on this question. It seems to me, however, that the case of San Diego, etc. v. National City, 74 Fed. 79, is in point. The facts of that case are briefly stated by the court, Ross, circuit judge. It appeared that "the City of National City, having, through its board of trustees, established by ordinance the rates at which the complainant corporation should furnish the city and its inhabitants with water for domestic purposes and purposes of irrigation for the year ending July 1, 1896, the complainant commenced this suit for the purpose of obtaining a decree," that, among other things, "complainant corporation is entitled to charge and collect for 'water rights' at reasonable rates, as a condition upon which it will furnish water to the in-

habitants of the municipality for the purpose of irrigation, independent of the rates fixed by the board of trustees for water sold and furnished by the company." * * * "The chief ob-
179 ject of the organization of the complainant company" (in that case) "was the acquiring of land, and the subdividing and selling of it for profit;" and "principally for the purpose of adding to the value (of their lands) and enabling the company to sell them to advantage, the complainant, in the years 1886 and 1887, appropriated, under and by virtue of the constitution and laws of California the waters of the stream known as the Sweetwater River, and for the purpose of impounding those waters, in order that it might distribute and sell them in connection with its lands and likewise distribute and sell them to other land-owners and individuals within their flow, for purposes of irrigation and domestic and other beneficial uses, proceeded to construct across the bed of the stream a huge dam known as the Sweetwater Dam." The court then refers to various works constructed for the purpose of delivering the water. At p. 85 the court says: "From at least as early as the completion of its pipe system No. 1 the complainant, by public advertisement and otherwise, offered and held its farming and orchard lands and its lots in National City for sale, representing the water of its system to be piped to and over its lands and lots, and up to December 18, 1892, represented that an abundance of water would be supplied to purchasers of such lands for their irrigation, at the rate of $3.50 per acre per annum, and for city lots in ample quantity and at cheap rates. Under those representations the complainant sold a large number of acres of farming and orchard lands in separate tracts, and widely scattered, to all of which
180 purchasers it furnished water for purposes of irrigation at the rate of $3.50 per acre per annum. * * * But commencing with December 18, 1892, and extending to February, 1895, the complainant demanded of all consumers of water, other than those to whom it had furnished water for irrigation prior to that date, the sum of $50.00 per acre, where water is required for purpose of irrigation, in addition to the annual charge, for what it denominated a 'water right,' and thereafter it demanded and still demands $100 per acre, in addition to the annual charge, for a so-called water right for irrigation purposes, from all persons other than those to whom it had furnished water for those purposes prior to December 18, 1892. One of the objects of the present suit is to obtain a decree establishing the validity of that claim of the complainant to exact a sum of money in addition to an annual charge, as a condition on which alone the complainant will furnish consumers of water for irrigation purposes, other than those to whom it had furnished it for such purposes prior to December 18, 1892. And the contest that arose between the consumers and the company over this charge for a so-called water right, and the refusal of the municipal authorities of National City to allow that charge in respect to acreage property within the city limits, is one of the principal causes of the present suit. It does not change the essence of the thing for which the complainant demands a sum of money to call

it a water right, or to say, as it does, that the charge is im-
181 posed for the purpose of reimbursing complainant in part for the outlay to which it has been subjected. It is demanding a sum of money for doing what the constitution and the laws of California authorized it to appropriate waters within its limits, conferred upon it the great power of eminent domain and the franchise to distribute and sell the water so appropriated, not only to those needing it for purposes of irrigation but also to the cities and towns and their inhabitants, within its flow, for which it was given the right to charge rates to be established by law, and nothing else. No authority can anywhere be found for any charge for the so-called 'water right.' The State permitted the water in question to be appropriated for distribution and sale for purposes of irrigation, and for domestic and other beneficial uses, conferring upon the appropriator the great power mentioned and compensating it for its outlay by the fixed annual rates. The complainant was not obliged to avail itself of the offer of the State, but choosing, as it did, to accept the benefits conferred by the constitution and laws of California, it accepted them charged with the corresponding burden. Appropriating, as it did, the water in question for distribution and sale, it thereupon became, according to the express declaration of the constitution, charged with a public use."

"Whenever," said the Supreme Court of California in McCrary v. Beaudry, 67 Cal. 120, 121; 7 Pac. 264, "water is appropriated for distribution and sale, the public has a right to use it; that is, each member of the community by paying the rate fixed for sup-
182 plying it, has a right to use a reasonable quantity of it in a reasonable manner. Water appropriated for distribution and sale is ipso facto devoted to public use, which is inconsistent with the right of the person so appropriating it to exercise the same control over it that he might have exercised if he had never appropriated it."

To the same effect is People v. Stephens, 62 Cal. 209, and Price v. Irrigating Company, 56 Cal. 431.

This case is referred to in the case of Boise City Irrigation & Land Company v. Clark, Circuit Court of Appeals, 9th Circuit, 131 Fed. 415, in an opinion by Ross, circuit judge, and the portion of the decision referring to the charge for water right is quoted with approval.

The case of San Diego v. National City was appealed to the Supreme Court of the United States, but that court does not decide the question of the right to charge for the so-called water right.

Counsel for complainant in their reply brief (p. 19) claim that the court in the National City case held that the board having fixed the rates that the company might charge for the furnishing of water, that the company sought to charge in addition to those rates a charge for the water right, that is, for the right of the consumer to get the water, but the court properly held that this was included in the rates fixed by the board; therefore they claim that the case is not in point. I do not find, in the opinion of the court, that, as

claimed by counsel the court held that the value of the water
183 right was included in the rates fixed. On the contrary, it seems to me the case directly decides that there can be no charge for the so-called water right. It seems to me to be very clear that if a company which has appropriated certain waters could not charge for a water right as a condition precedent before such water would be delivered to a consumer, such company would not have the right to have a valuation of such water right added to the valuation of its properties used in distributing the water and the rates increased by such valuation of water rights. This would be doing indirectly that which they could not do directly. The principle involved seems to me to be that a distributor of water does not acquire any interest in the water itself, except for the purpose of distribution, and that, as stated by the court in the quotation aforesaid, its sole compensation is to be derived in the right to charge rates for such distribution. They are authorized under the law to appropriate water for this purpose, and to charge for such right is to charge for doing that which the constitution and the laws of California authorize them to do. As an illustration, to show that the right of the company to the water as an appropriator does not give a right to the water itself, let us assume that the waters distributed by the complainant in this case should be required for a greater public use, for instance, the supplying of some municipality with water, and condemnation proceedings should be brought to obtain such water. It cannot be questioned that the right to such water is of great value to the farming community using the
184 same, and that such users could not be deprived of such water without just compensation, and that such compensation might be the difference between the value of their lands with the water and without the water. But such damage would certainly be payable to the users and not to the canal company. It is true that the canal company might also be damaged by reason of the taking of such water and thus destroying their business, but such damage would not arise from the value of the water itself, but by reason of the loss of their franchise, which is their right to charge rates, as defined by the act.

Counsel for complainant, in their brief, p. 43, state that "even if this value (the alleged value of the water right) should not be considered as a distinct item, eo nomine, it is evident that the value of complainant's franchise and business is increased to that extent by the existence of that right." If complainant means by this that the value of its franchise is increased to the extent of the full value of its water rights, such a construction would be allowing them the very matter which it is decided that they are not entitled to. Under the recent decision of the United States Supreme Court, in the case of Wilcox v. Consolidated Gas Company, decided by the United States Supreme Court on January 4, 1909, it is decided that a franchise is such property as should be valued in the matter of the fixing of rates, in that case a municipal gas corporation. Counsel for defendants (brief, p. 37) state that the court decides in that

case that a franchise shall not be included in valuing the
185 plant. I do not read such decision to that effect, but on the contrary that a franchise is property and must be valued; and that complainant would be entitled to a valuation on its franchise, which under the act of California providing for the regulation of rates, is described as its right to collect rates. No testimony has been offered in this case for the purpose of fixing such valuations. Counsel for complainant in their brief as to the items which should enter into their properties have made no claim that under the evidence they have established any valuation for a franchise or for the good-will or a valuation as a going concern.

Counsel for complainant in their reply brief (pp. 10 and 11) claim, aside from the matter of the valuation of the water right, that complainant has paid John Bensley $112,500 for water rights and rights-of-way which he had acquired, and paid Miller & Lux $174,929.67 by way of reduced rates for water right and right of way granted by that company (referring to p. 165 of the testimony), besides giving them the advantage of stock water and benefit from waste water, which, counsel for complainant claim, is worth $10,000.00 a year, or, if capitalized at 6 per cent., $166,666; that these amounts total $453,095.60 for water rights and rights of way of only a small part of the canals of the company.

I am of the opinion that if complainant or its predecessors from whom its rights were obtained have paid any sum or sums for water rights, complainant is entitled to have added to its investment such sum or sums so paid. However, such sum or sums must
186 apply to water rights only, for the valuation as to right of way is to be made upon the present value of such right of way without regard to its original cost, if I am correct in my holding in regard to such right of way, hereinbefore considered.

I will take up first the claim that complainant has paid Miller & Lux $174,929.67 for water rights by way of reduced rates granted Miller & Lux by complainant. These matters of reduced rates arose from certain contracts entered into between Miller & Lux and complainant, which term includes the predecessors in interest of complainant and the predecessors in interest of Miller & Lux.

The first contract is complainant's Exhibit No. 6, which is a contract dated the 18th day of May, 1871, between the San Joaquin & Kings River Canal Company (a corporation), and Henry Miller and Charles Lux, partners, under the firm name and style of Miller & Lux. This contract was entered into before the commencement of the construction of the canals of the said San Joaquin & Kings River Canal Company, and is the beginning of the enterprise of which the present complainant is the successor. Under this agreement said canal company agreed to construct certain canals and said Miller & Lux agreed to pay said company a subsidy of $20,000.00 upon certain conditions in regard to the completion of such canals and the furnishing of water therefrom, and said Miller & Lux granted to said company a right of way over their lands. Said contract contains the following clause:

187 "And the said parties of the second part (Miller & Lux) covenant and agree with said party of the first part (the Canal Company) that when said canal is so far completed as to furnish water for purposes of irrigation they will pay to said party of the first part for each crop a sum not exceeding one dollar and twenty-five cents ($1.25) per acre, or the prices paid by other parties, for every acre of their said lands actually irrigated by them from the waters of said canal."

The San Joaquin & Kings River Canal Company was superseded by "The San Joaquin & Kings River Canal & Irrigation Company," and a new contract was entered into with such latter company, dated the 7th day of February, 1872, between said company and Henry Miller and Charles Lux. This contract is Exhibit No. 7. The first paragraph of the contract refers to the first contract, dated May 18, 1871, and the subsidies mentioned in such first contract, and recites that in satisfaction of the agreement to pay a subsidy in aid of the canal said Miller & Lux have given their two certain promissory notes, each of $6,666.67, and agree to pay the further sum of $6,666.66 if the canal shall be extended to certain points before the first day of August, 1874. The contract then grants unto the canal company a right of way. Said Miller and Lux then agree to pay to the canal company "for water furnished by it, used in irrigating each crop, the regular price paid by others for irrigation, not to exceed one dollar and twenty-five cents per acre for each acre so ir-
188 rigated of land owned by said Miller and Lux. The contract provides also that Miller and Lux shall not be responsible for any damage which their cattle may do to the embankments of the canal, and the canal company "agrees to furnish to Miller & Lux a sufficiency of water from its canals for their cattle and for all domestic purposes of themselves, their tenants and employees, free of charge;" and said canal company "agrees to furnish water for the irrigation of the 50,000 acres of land belonging to said Miller & Lux as follows: Whenever required by said Miller & Lux for irrigation at any time in the year 1872, after the 1st day of April, water enough to irrigate 16,667 acres; whenever required for irrigation after the 1st day of April, 1873, by said Miller and Lux, enough water to irrigate 16,667 acres additional, or 33,334 acres in all; and by the 1st day of August, 1874, enough water to irrigate 16,666 acres additional, making 50,000 acres in all." And in case water is not so furnished the subsidy to be proportionately reduced in the manner provided in the contract.

It appears that at the time of the organization of the first canal company, and also at the time of the organization of the second canal company, the firm of Miller & Lux were minority stock owners in such companies, and that in the year 1877 Miller and Lux obtained control of the canal company by acquiring a majority of its stock, and it is admitted by counsel for complainant (p. 251 of the testimony) that ever since a meeting referred to as taking place in 1877, Miller and Lux and the two corporations which suc-
189 ceeded them have nominated a majority of the directors of the canal company, both complainant and the old company.

The next contract is Exhibit No. 8, dated November 12, 1879, between the San Joaquin & Kings River Canal & Irrigation Company and Henry Miller and Charles Lux, which contract was made after Miller & Lux had obtained control as aforesaid, and recites:

"Whereas differences have existed between the respective parties hereto in relation to the construction of a contract made by and between said parties, bearing date the seventh day of February, 1872, and a suit is now pending wherein said construction is involved, and

"Whereas a committee was appointed by the board of trustees of said corporation on the 28th day of August, 1879, 'to take steps to settle without further litigation all matters in dispute in suits now pending between this company and Miller and Lux;' and said committee afterwards reported to said Board of Trustees in writing, in which a settlement of said matters was recommended upon the terms therein set forth, etc.

The contract then recites that the parties had agreed to settle and compromise the matters of difference and enter into the contract, which follows.

The first paragraph provides for the execution of a deed by said Miller & Lux to the canal company of a right-of-way for said canals where the same pass through or over their lands, and then
190 provides that the fifth paragraph of the contract of the 7th day of February, 1872, "shall be construed to mean that this company will deliver water thereunder at its regular rates, not exceeding one dollar and twenty-five cents per acre per crop, provided the crops are cut, but in case the alfalfa lands should be pastured, then each supply of water of the usual quantity supplied to produce a crop shall be deemed to be such a supply as will entitle a charge to be made therefor, the same as if a crop shall be cut, and said subdivision shall likewise apply with the proviso aforesaid, to said Miller and Lux, their tenants, employés, heirs, executors and administrators, and shall run with the land so long as this company exists, to the extent of 33,333⅓ acres, but shall not apply to the grantee of said Miller & Lux, nor to the grantees of their heirs, executors or administrators, and subdivision Tenth of said contract (relating to stock water) shall apply to all domestic animals owned, pastured or cared for by Miller & Lux, their tenants, employés, heirs, executors or administrators."

The next contract, Exhibit No. 9, dated the 24th day of December, 1897, is between The San Joaquin & Kings River Canal & Irrigation Company and Miller & Lux, a corporation, the successor of the firm of Miller & Lux, and provides that all the rights and benefits and privileges secured to Henry Miller and Charles Lux by the agreement of the 7th day of February, 1872, and the supplementary agreement of the 12th day of November, 1879, shall inure to said Miller & Lux, a corporation, and

"It is further agreed that the true intent and meaning of so much of the second paragraph of said last-mentioned contract as relates to the rates to be paid by said Miller & Lux for water fur-
191 nished for irrigation, is that the said Henry Miller and Charles Lux were to pay, and the said party of the second

part is to pay, for each crop irrigated or for water furnished of the usual quantity supplied to produce a single crop, one-half of the regular rates per season of two crops, but not in any case to exceed $1.25 per acre per crop."

The next contract, Exhibit No. 10, is an agreement between The San Joaquin & Kings River Canal & Irrigation Company and Miller & Lux, a corporation, dated the 18th day of May, 1899, and recites that:

"Whereas prior to the construction of the canal of the party of the first part, Henry Miller and Charles Lux were the owners of certain lands and were the owners of riparian rights in and to the waters of the San Joaquin river and sloughs, and had been accustomed to and did actually use the waters of said river and sloughs which naturally overflowed said lands, and also to take water therefrom by artificial means, for the purposes of irrigating said lands and furnishing water for their cattle and live stock and for other domestic uses; and

"Whereas said Henry Miller and Charles Lux, for the purpose of aiding the construction of said canal did pay a subsidy in money and conveyed a certain right of way and permitted the party of the first part to appropriate and divert from said river 800 cubic feet per second, and

"Whereas at all times since said appropriation was made by the party of the first part said Henry Miller and Charles Lux, and said Henry Miller as the survivor of them, and the party of the
192 second part (as the successor in interest of said Henry Miller and Charles Lux) continued, as such riparian owners, to use the overflow waters of said river and sloughs upon said lands for the aforesaid purposes, and also to use, for the purpose of irrigating uncultivated lands and furnishing water for their live stock and for other domestic uses, and with the consent of the party of the first part and without any charge therefor by it, the surplus water running in said canal not used or required by the water consumers of the party of the first part other than said Henry Miller, Charles Lux, and the party of the second part, and

"Whereas during all said times it was understood by all said parties that the said Henry Miller and Charles Lux, and said Henry Miller as the survivor of them, and said party of the second part, as the successor in interest of them, were of right entitled to the said use without charge of the said surplus water in said canal, and that said party of the first part was of right entitled to waste such surplus water on said uncultivated lands, and

"Whereas the party of the second part has agreed to permit the party of the first part to appropriate and divert from said river through its "outside canal" 350 cubic feet per second of the water flowing in said river, in addition to the aforesaid 800 cubic feet per second;

Now, therefore, in consideration of the premises, and to the end that the rights of the respective parties hereto, as heretofore
193 understood and recognized, may be fixed and established, the party of the first part does hereby confirm unto said party of

the second part the right to use, for the purpose of irrigating the said uncultivated lands above referred to, and of furnishing water for its cattle and live stock, and for other domestic uses, free of cost or charge to it, all or so much of the surplus water running in the canals of the party of the first part as the party of the second part may desire to use for said purposes, and which may not be used or required by the other water consumers of the party of the first part; and said party of the second part does hereby confirm unto said party of the first part the right to waste said surplus water on said uncultivated land.

"And the party of the first part does hereby acknowledge and declare that it has no claim to make against the party of the second part of the second part or its predecessors in interest on account of the use heretofore made by it and them of said surplus water."

These appear to be all the contracts bearing upon the matter now under consideration, namely, the advantage received by Miller & Lux by reason of these contracts, over what Miller and Lux would have been required to pay had they been charged the rates charged to other consumers.

Mr. Merritt, complainant's secretary, in reply to the question, "What were the rates charged for water by the predecessor of complainant prior to the attempted fixing of rates by the supervisors of Stanislaus County in 1896?" answered: "The rates which
194 were in force immediately prior to the adoption of the rates by the board of supervisors of Stanislaus County in 1895 were as follows: For irrigating alfalfa, $2.50 per acre per annum; for irrigating cereals, $2.00 per acre per annum; for irrigating trees and vines, $2.50 per acre per annum; for irrigating gardens, $5.00 per acre per annum; and certain rates for water for live stock." Mr. Merritt then makes a calculation, at pp. 164-5 of the testimony, of the saving to Miller & Lux by reason of their special rate, from the year ending June 30, 1887, to the year ending June 30, 1903, and states that his records do not enable him to cover the whole period during which they (the canal company and Miller and Lux) have done business together, and that such advantage amounted to $208,263.00, and deducting therefrom the sum of $33,333.33, which represents the subsidy paid, leaves $174,929.67 as the net amount of the advantage of Miller & Lux derived from such contracts; and this amount, complainant contends, if its water right is not to be valued as property and the values fixed as claimed, should be allowed them as a part of their investment of the amounts actually paid therefor, and that such advantage to Miller and Lux represents an amount actually paid.

I cannot agree with this contention for the following reasons: It does not appear from any of the original contracts under which these special rates were given that such special rates were given in consideration of any water rights granted by Miller & Lux to
the canal company. It would be remarkable if such special
195 rates were given in consideration of water rights granted, that the fact of the granting of such water rights is not mentioned in such original contracts. It will be noted that con-

tracts Exhibits Nos. 6, 7, and 8, which contracts were made in the early days of this enterprise, to wit, May 18, 1871, February 7, 1872, and November 12, 1879 (the latter contract being made after Miller and Lux had obtained a controlling interest in the canal) none of them mention the granting of any water rights by said Miller and Lux to said canal company.

The first contract in which any water rights are mentioned as having been granted by Miller & Lux to the canal company, is the contract of May 18, 1899, which contract was made for the purpose of confirming to Miller and Lux the use of certain thereindescribed surplus waters, and bases the right to such surplus waters upon an allegation that such water rights had theretofore been granted by Miller and Lux to the canal company.

It does not appear in the testimony what rights to waters Miller and Lux owned at the time of the commencement of this enterprise, or what quantity of water they were then diverting from the river, if any. In fact, judging from the contracts, the question of water rights did not enter into consideration. The contracts only refer to the granting of rights of way and in addition thereto Miller and Lux granted the canal company a bonus of $33,333.33. The right of the canal company to take from the river waters to the capacity of the canal to be constructed did not seem to form
196 any part of the agreements. Before Miller and Lux obtained control of the corporation certain suits were commenced by the early corporation, being the second corporation, and it appears that this litigation concerned the construction of the two contracts Exhibits Nos. 6 and 7. It seems that the canal company at that time construed the contracts as meaning that the special rate granted Miller and Lux expired with the completion of the canal to certain points, and contended that such contracts did not give such company a perpetual right to receive water at such special rates. I gather that this was the nature of the differences referred to in contract Exhibit No. 8 entered into after Miller and Lux had obtained control of the board of directors, and on the report of the committee appointed and referred to in such contract Exhibit No. 8. The said resolution, which appears at p. 213 of the testimony, reads as follows:

"Whereas this company has ever since the year 1874 charged Miller & Lux for water used by them the full rates of $2.50 and $3.00 per acre, and the same has been entered upon the books of the company as a debit to their account, and

Whereas this company brought an action against Miller and Lux to recover the amount so charged, and other disputed charges up to the date of said suit, and for the purpose of establishing the legal construction of a certain contract with them, dated February 7, 1872, and

Whereas Miller and Lux have paid for all of said water at the price of $1.25 per acre per crop, the price mentioned in said
197 contract, and

Whereas this company entered into a supplementary contract with Miller and Lux dated November 12, 1879, by which it was agreed that said contract of February 7, 1872, should be con-

strued to mean that they are entitled to water thereunder during the existence of this company, at a rate not exceeding $1.25 per acre per crop (the rate at which they have paid in full for water supplied to June 30, 1879), and that said suit should be dismissed; therefore

Resolved that the am't now standing to the debit of Miller and Lux on the books of this company, being excess over $1.25 per acre per crop for water as above, and other charges included in the said suit, now dismissed, be cancelled and removed from their account, and the secretary is instructed to make the proper entries to that effect."

In the minutes of another meeting, contained at p. 220 of the testimony, the following proceeding appears:

"An application was read, purporting to be from Miller and Lux, signed 'Miller and Lux, p. Bolton,' dated April 30, for water to overflow grass lands about three miles north of Firebaugh's. After discussion it was moved by Mr. Walker that the application be rejected, because said application is not made in the form prescribed by the rules and regulations of this corporation, and for the further reason that it purports to be made under a contract which this corporation does not recognize as giving said applicants any rights in regard to water for irrigation subsequent to the 1st day of August, 1874. Seconded and carried unanimously."

198 I do not refer to this for the purpose of considering the merits of such contracts, as to whether or not such contracts gave Miller and Lux the right to water thereunder during the existence of the canal company at the rate not exceeding $1.25 per acre per crops, but for the purpose of showing that such contracts were not intended to fix such rate as a consideration for the granting of water rights. It seems to me far-fetched to assume that such advantage could be made to represent the value of the water rights, if any were granted, and rights of way. Suppose that we assume that this advantage had continued until Miller & Lux had received an advantage of $1,000,000. Could it be claimed that $1,000,000 would now represent the investment paid by the company for water rights?

From a careful examination of these contracts and other evidence, I am satisfied that the original canal company obtained its water rights by appropriation, and that the matter of the right of the canal company to take water from the river had nothing to do with the giving of the reduced water rate to Miller & Lux.

As to the contention that the canal company paid to John Bensley $112,500.00 for water rights and rights of way. There is no testimony showing what water rights or rights of way were conveyed by Mr. Bensley to the canal company or what portion of said amount was for water rights and what portion for right of way.

It appears that in 1871, on the organization of the second company there was issued to Mr. Bensley 15,000 shares of stock

199 of the new company, and that such stock was made unassessable to the amount of $7.50 a share; that said new company in 1871 had a capital stock of 100,000 shares of a par value

of $100,000, and that there was paid in on each of such shares $10.15 by the holders thereof; that the stock issued to Mr. Bensley was assessed the same as the other stock over and above the amount of $7.50 aforesaid (testimony, pp. 152-4); that such exemption from assessment represented the said sum of $112,500, and it is claimed that this amount was paid to Mr. Bensley for water rights and rights of way.

Mr. Merritt, complainant's secretary, testified concerning this transaction, as follows:

Q. 50 (p. 154). And for what property did the books show that that non-assessable agreement was given?

A. For the right of way that had been acquired at that time for the ditch that had actually been constructed at that time, and head works and water rights of the old company, and all other property which it owned at that time.

Q. 51. Will you refresh your memory just a moment on that now? Wasn't all the work that had been done, was not all that paid for in cash,—all the money that the old company had actually expended for work, wasn't there a cash payment for that?

A. Yes, I believe that was true. I had forgotten that.

Q. 52. So that there was a certain payment by the San Joaquin & Kings River Canal & Irrigation Company to the old company, the San Joaquin & Kings River Canal Company, for the ex-
200 penditures which it had made up to that date, and that was entirely separate, was it not? It showed on the books as being entirely separate from the payment to John Bensley and those people, or rather the agreement with John Bensley and those people in regard to this 15,000 shares of stock

A. Yes.

Q. 53. Now, then, what is your recollection as to what the books show the 15,000 shares of stock were issued for?

A. For water rights, etc., and rights of way.

Q. 54. What did that amount to, altogether?

A. $112,500 for the water rights, etc., which was paid for by making the stock unassessable up to the value of $7.50.

(By Mr. LANGHORNE:)

Q. 55. That is, to Bensley?

A. Bensley, yes.

In connection with his testimony Mr. Merritt introduced two exhibits, Nos. 13 and 14, which is a statement taken from the books of the company, which books have since been destroyed. It appears that this statement was introduced in the former case against Stanislaus County. Introduction of the evidence was objected to as being incompetent, but not on the ground that it was not a true summary of what the destroyed books of the company showed (testimony, p. 177):

Exhibit No. 13 contains the following entries:

"Paid San Joaquin & Kings River Canal Company, cost of works, to date of purchase.....$119,335.29

"Paid John Bensley, et al., in stock, 15,000 shares, at $7.50, for remainder of property of old company.... 112,500.00

Exhibit No. 14, which statement contains additional items,
201 also contains the following statement:

"Paid S. J. & K. R. C. Co., cost of work to date of purchase $119,335.29
"Paid John Bensley, et al., in stock, 15,000 shares, at $7.50 for water rights, etc..... 112,500.00

The testimony on this point is very meager. Some light, however, is thrown upon the nature of the payment to Mr. Bensley by the minutes of the stockholders' meeting of December 1, 1874, introduced by defendants on cross-examination. At this meeting Mr. Bensley was present, and the minutes show that a general discussion took place as to the management and mismanagement of the affairs of the old company (testimony, pp. 218, 219). These minutes, after reciting a dispute between Mr. Bensley and Mr. Brereton, the chief engineer, set out: "This caused a long discussion on past affairs, and Mr. Bensley finally made a motion that a committee be appointed to investigate this whole matter (referring to certain charges of mismanagement, etc.), and that the election of trustees be postponed until their report; thought it eminently proper that this should be done, and stated that he could conclusively prove to said committee that Mr. Brereton, as engineer, had made many mistakes which had cost the company a great deal of money, and, in regard to the amount paid to the old company, if it could be shown that they had received a larger amount from this company than they were entitled to, he would agree to refund every cent of it. * * *

An excerpt from the minutes of December 31, 1874 (testimony, p. 219) reads as follows: "Communication from Mr. Brere-
202 ton was read, dated 29th December in reference to am't expended on construction acc't by this co. and by the former co. and giving it as his opinion that the 15,000 shares of unassessable stock paid to the old company was an excess of what was legally due to them, and that the same might be recovered. On motion of Mr. Chapman the communication was received and laid upon the table."

These latter minutes seem to indicate that while the 15,000 shares of unassessable stock may have been issued to Mr. Bensley, it was a part of the consideration paid for the properties of the old company. It would seem strange that if these shares of stock were paid to Mr. Bensley as a distinct payment for specified water rights and rights of way, that a proposition should be made to the meeting that the 15,000 shares of unassessable stock "paid to the old co. was an excess of what was legally due to them, and that the same might be recovered." It would seem to indicate that the same may have been the payment made to Mr. Bensley as his share or his interest in the properties of the old company generally, and not specifically for any particular property. It does not at all appear that Mr. Bensley had any water rights which he conveyed to the old company, and if he conveyed rights of way, complainant is allowed the

present value of such rights of way, irrespective of the consideration that may have been paid to Mr. Bensley therefor.

203 In the minutes of May 7, 1899, is incorporated a report made by a committee appointed on the 5th inst. to investigate the matter of the free use by Miller & Lux of the surplus water of the canal companies. This report contains the following entry:

"Prior to the construction of the company's dam and canal, Miller & Lux were, as they still are, the owners of large bodies of land fronting on the San Joaquin River and intersected by sloughs connected with the river, and were accustomed to irrigate those lands both by the natural overflow of the rivers and sloughs and by means of dams and other contrivances. Their riparian rights as owners of these lands were such that the company would not have had the right to divert any water from the river to their prejudice without their consent, except by purchase or condemnation. Miller & Lux, however, aided in the organization of the company, gave it a right of way through their lands and a subsidy in aid of the construction of the canal, and tacitly assented to the diversion of water by the company. No written agreement was ever made on the subject, but we are satisfied that their acquiescence in the acts of the company would certainly be held to estop them from denying the right of the company to take water to the extent of the capacity of the canal (testimony, pp. 231–2). The committee then recommends the adoption of a contract between the canal company and Miller & Lux in regard to the use of surplus waters, and the motion was carried that such contract be made as recommended by the committee in its report.

204 As above quoted from the minutes, said committee reported that no written agreement was ever made on the subject of the right of the canal company to take waters from the river, and as heretofore referred to by me there is no mention in any of the contracts between the canal company and Miller & Lux made when the enterprise was first entered upon, of any conveyance or consideration for water rights granted. Paragraph 6 of the contract of February 7, 1872, only provides that if the canal should diminish the natural overflow of the San Joaquin River and its sloughs, which usually occurs between the 1st day of April and the 15th day of June, the canal company would permit an overflow from the said canal upon the lands of Miller & Lux equal to that of which they shall have been deprived.

I conclude from the foregoing quotations from the testimony and contracts that no consideration was ever paid by the canal company for its right to take waters from San Joaquin river.

The contract, Exhibit 10, which provides for the appropriation and diversion of 350 additional cubic feet in consideration of the use of certain waters for cattle and live stock and of certain surplus waters running in the canals, I will consider hereinafter upon the question of the right of Miller & Lux to the use of such surplus waters.

205 *Cost of Maintenance.*

The cost of maintenance for the year ending June 30, 1908, is set out in complainant's Exhibit No. 16, and is printed in its brief, p. 47. Such total cost of maintenance is $83,487.28, from which is to be deducted the legal expense, Cal. P. & A. Co. against Miller & L., and Canal Co., $886.50, which it is admitted in complainant's brief, p. 38, should be charged to Miller & Lux, leaving $82,600.78 as complainant's claim for cost of maintenance for the year ending December 31, 1908 (Complainant's brief, p. 38). Defendants in their brief (pp. 65, 66) contend that the annual maintenance account should not be confined to the alleged expense for one year only, but should extend to a consideration of such expense for several years, so that a fair and reasonable average maintenance expense may be arrived at. Complainant, in its reply brief, states that defendants' claim that the amount to be allowed for canal cleaning should be determined by the average amount expended for that purpose during a series of years, is not without merit, but that such average should be limited to the period from 1900 to 1908, owing to the increased acreage irrigated by complainant and the increased values of its properties caused by extensions. (Complainant's reply brief, pp. 26, 27.) Complainant claims that the average cost of labor should not be averaged because the cost is higher at this time; also the claim that the cost of litigation should be averaged, complainant claims is without merit, since attacks on the company's rights resulting in most of the litigation did not begin until 1899.

206 In the matter of fixing rates the present act does not contemplate that the rates shall be fixed annually. While the act provides a method by which such rates may be changed from time to time, and which could be so followed as to require rates to be fixed annually, it is clearly not the contemplation of the law that the rates shall be so fixed. Under the prior act, approved March 26, 1880, the supervisors of the several counties were required to fix maximum rates for water for purposes of irrigation in the month of February of each year. This applied to irrigation companies the same requirement that the Constitution of California provides as to water companies furnishing cities and towns. The act of March 12, 1885, which in terms does not apply to any city and county or town, does not require such annual fixing of rates. The said act, after designating what property shall be considered by the supervisors in the matter of fixing rates, provides that the board of supervisors shall in like manner estimate "as to each of such corporations, companies, associations and persons their annual reasonable expenses" (sec. 4). And in sec. 5 of said act it is provided that said "Board of Supervisors, in fixing such rates shall, as near as may be, so adjust them that the net annual receipts and profits thereof, to said persons, companies, associations and corporations, so furnishing water to such inhabitants, shall not be less than six nor more than eighteen per cent. upon the said value," etc. The use of the words "shall esti-

207 mate the annual reasonable expense, so that the annual receipts shall be not less than 6 nor more than 18 per cent."

seem to me to mean that the supervisors shall ascertain what are the usual yearly expenses, and not the expenses for the particular year in which the rates are fixed, except as the expense for such year enables them to ascertain such annual expense.

It does not seem to me that this court should follow a different method in ascertaining what such annual reasonable expenses may be than the board of supervisors should follow. There are many items in the expense account which would be an easy matter of control by any distributer of water;—as an illustration, canal cleaning, as well as the matter of repairs, might be deferred for one or two years, and then an unusual amount of canal cleaning and repairs done in one year solely for the purpose of having the rates adjudged insufficient. By this I do not mean to intimate that there has been a stuffing of the maintenance account in this case. The maintenance accounts for the year in question, and which it was insisted upon by Mr. W. B. Treadwell in his closing argument should not be made the subject of average, shows more than the average expenses in the items of canal cleaning and litigation, and perhaps some other items. It seems to me that it is both to the interest of the canal company and the people of the counties that these rates shall be so fixed that they will produce the annual rate on the average which the legislature intended that such companies shall receive, but not less than 6 per cent., and that the question as to
208 whether such rates are sufficient should be determined upon the basis of an average maintenance expense. It appears that for the year ending 1908 the maintenance expenses were somewhat above the normal; and if the rates were found to be insufficient to produce at least 6 per cent. entirely because of such unusual expenses, it seems to me that a decision finding the rates insufficient on such ground alone would be of little value either to the water company or to the consumers, for it would necessarily follow that if an unusual amount of canal cleaning was done in 1908, or other unusual expenses incurred, the following year or years would be below the average and the rates complained of might be more than sufficient for such following years. I therefore conclude that the sufficiency of these rates, inasmuch as they continue in force until other rates are fixed by the method provided in the act, should be determined upon the basis of the normal annual reasonable expenses.

On the taking of the testimony herein the inquiry as to the maintenance accounts principally concerned the years 1906, 1907 and 1908, and considerable testimony was taken as to the propriety and reasonableness of the charges made during those three years.

Much testimony was taken upon the charges made for legal expenses in various suits to which the canal company was a party, and also for certain suits prosecuted by Miller & Lux and for which the canal company was charged a portion of the expenses, but to which the canal company was not a party, it being claimed that the
209 canal company's rights were involved in the suits and that they were directly interested in such litigation. A statement of this litigation is contained in defendants' Exhibit P. This data

was prepared by Mr. Merritt, complainants' secretary' upon the request of the defendants.

Defendants object to the charges made of certain suits specified by them, commencing at p. 69 of their brief, on the ground that the canal company was not a party to them, and there is nothing giving it or securing to it any rights thereunder. The proportionate charges made in such suits varied from one-half to three-fourths. It appears that the litigation generally was conducted by Miller & Lux, the same attorneys representing Miller & Lux as represented the canal company, and the accounts were kept by Miller & Lux, and the proportionate charges made to the canal company. It has not been made to appear that the proportion charged to the canal company in such suits to which they were not a party is not a reasonable proportion based upon their interest in the results of such suits. It does not seem to me that it is necessarily material that the canal company be nominally made a party to such suits, if such suits were in fact litigated by Miller & Lux having mutual interests with the canal company and such suits were approved of by the canal company. The testimony of Mr. Merritt is to the effect that these suits were brought jointly in the interest of the canal company and Miller & Lux, and there is no evidence showing that the proportions of the expenses charged were not proper. The testimony relating to these matters will be found at pp. 179, 194, 197, 291, 307, 348,
210 349, 351, 352, 354, 356, 358–365, 367, 370–2, 382, 386, 388, 389, 391, 400, 401, 403, 411, 417–9, 421, 557, 558, 710–13, 717.

There is one item, under the head of expenses of litigation for the year 1906, shown by defendants' Exhibit F, which it will be necessary to consider. A suit was brought by Miller & Lux and the canal company jointly against Agnes Borland, executrix, et al., over some sixty feet of water claimed by Borland, executrix, et al. The facts are stated by counsel for defendants in their brief (p. 70). This litigation was decided in the Superior Court against Miller & Lux and the canal company. Thereafter Mr. Henry Miller bought out Borland's land, and organized a company called the Borland Land Company. This Borland Land Company then became the owner of the rights of the defendants in such litigation. After the purchase by Mr. Miller, a resolution was passed by the board of directors of the canal company which recited (p. 400 of the testimony):

"Whereas a judgment has been rendered in the Superior Court of Fresno County in the case of Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Company against Agnes Borland, executrix, et al., by the terms of which the right of this corporation to divert water from the San Joaquin River is made subordinate to the rights of said defendants as the owner- of certain lands riparian under Fresno Slough and the San Joaquin River, and

"Whereas two other suits involving the same issues are now pending, to wit, Turner v. Borland, in the Superior Court of Merced County, and the California Pastoral and Agricultural Company v.

Borland, in the United States Circuit Court for the North-
211 ern Division of the Southern District of California; and

"Whereas it is estimated that the expenses on appeal from the said judgment and prosecution of the said proceedings of the cases would cost the company from $10,000 to $15,000; and

"Whereas the Borland Land Company, the present owner of said land, is willing to enter into an agreement with this company permitting it, in consideration of the payment of the sum of $9,000.00, to divert 1200 cubic feet per second from the San Joaquin River; now, therefore, be it

"Resolved that the president of this corporation be and he is authorized and directed to make and execute in the name and on behalf of this corporation an agreement with the Borland Land Company as the owner of said riparian lands, securing to said corporation the prior right, as against said land company, to divert 1200 cubic feet per second from the San Joaquin River, and to pay the sum of $9,000.00 as consideration therefor."

This contract was offered in evidence by defendant, and is marked Exhibit G. Mr. Merritt, complainant's secretary, explains this transaction (p. 348 of the testimony):

X Q. 885. Do you know whether the $9,000.00 which you paid there was the entire expense for the year, or only a portion of the legal expense in that case for that year?

A. I am unable to state definitely now. That was not divided with Miller & Lux, but the form of your question would require me to state whether Miller & Lux had paid out anything of that kind for that year, and that I am not able to state without
212 referring to the records. This $9,000.00 was not divided with Miller & Lux. It was an item that was paid to prevent the litigation which it was estimated would cost a great deal more than that. This was paid out by the canal company alone.

X Q. 886. To whom?

A. To the Borland Land Company.

X Q. 887. And that is before Mr. Henry Miller bought it or afterwards?

A. Afterwards.

X Q. 888. Then that $9,000.00 was paid by the canal company practically to Mr. Henry Miller?

A. Practically.

X Q. 889. Under what arrangement?

A. I can't recollect the exact terms of it now, but it was for the purpose of settling a claim to the waters of the San Joaquin River which Borland had succeeded in establishing, and to get the reversal of which in the Supreme Court would have entailed an expense of probably $10,000 or $15,000, with an uncertainty as to the issue even then. In order to avoid the necessity of appealing the case and going through the litigation which would have to follow in order to get a reversal of the judgment in favor of Borland, Mr. Miller bought the lands and organized the Borland Land Company, and the canal company paid this sum of $9,000.00 to partly reimburse

him for the expense which he incurred in order to preserve the company's rights.

213 Mr. Merritt further explains the matter on pp. 417 and 418.

R. X Q. 27. Did Mr. Henry Miller, after he bought the interest of the Borland Land Company, threaten the canal company that he would fight that case on appeal as against the canal company, and that he would only abandon his rights after the judgment in that case that the Borland Land Company had recovered, in consideration of paying him $9,000.00?

A. No; it was no threat at all. It was simply an arrangement before Mr. Miller had bought out Mr. Borland at all, that if Mr. Miller was willing to buy the land, which he did not particularly want, the canal company would contribute this amount in order to enable it to get rid of that judgment. That was the understanding that was reached before Mr. Miller invested in the Borland land at all.

R. X Q. 28. Yes, I understand; but if Mr. Miller, who was then the president of the canal company and was buying the interest of Borland in order to protect the canal company, how was it that if that was so, how could there be any danger that the judgment that the Borlands had recovered would be enforced by Mr. Miller against the canal company?

A. This agreement was simply the carrying out of an understanding that had been had before Mr. Miller got the land.

R. X Q. 33. Now, then, does the $9,000.00 represent what you said a little while ago it represented, the estimated cost of this appeal, or does it represent what Mr. Miller paid for the land more than it was worth, that is, the cost over what the land was worth?

214 A. Well, of course the latter. We never said that it represented what the expense would be, because we estimated the expense would be a great deal more; but of course the object was to reimburse Mr. Miller for what he had paid in excess of what he deemed the land to be really worth, so that he should not be personally a loser by making an investment that was really in the interest of the canal company.

There is more testimony on the same matter at pp. 419, 420. The reason stated by Mr. Merritt for the payment of this $9,000.00 in the last quoted testimony is different from that stated in the resolution of the board above quoted, but it seems that this resolution was made in pursuance of the understanding had as testified to by Mr. Merritt, and it seems to me that the resolution should be considered in connection with the testimony of Mr. Merritt explanatory thereof. If the resolution is to be taken as expressing the real consideration, it seems to me that there would be much force in defendant's objections to this item, inasmuch as Mr. Miller is the president of the canal company, and would not be in a position to maintain an adverse claim against the company, which claim such company and Miller & Lux had commenced suit to maintain. The effect of the purchase was to join the rights of the defendant to those of the complainant, and in that sense would wipe out the cause of

action. But if this sum of money was paid to Mr. Miller or to the Borland Land Company to reimburse him for moneys ex-
215 pended on behalf of the canal company, the matter is placed in an entirely different light; and on the consideration of all the testimony I am inclined to adopt the latter view. There is no testimony showing that this amount was not a reasonable payment to Mr. Miller for his expenditures in buying out the Borland interests and his services in that behalf.

Defendants also claim that the expenses of litigation in contesting the ordinances fixing the rates are not allowable as an expense of maintenance, and refer to the case of San Diego Water Company v. San Diego, 118 Cal. 556. Counsel for complainant contend, in their closing brief, pp. 23 and 24, that if the expense of such suits is a regular burden that the company must bear in order to protect its property, there would seem to be no reason why it should not be considered as any other sum expended in the protection of the property of the company. No cases are cited by complainant where the costs of such litigation have been allowed as maintenance, and it is decided in the San Diego case above referred to that the same is not a proper charge. In the San Diego case, in considering the question of expenses, the court says: "Of course the items of expenses in the present action should be disregarded." No reason for this conclusion appears to have been given.

Suppose the expenses of this suit alone rendered the rates insufficient, complainant would not be justified in incurring the expense which is the cause of the result it complains of. In other words, assuming that the income required is $50,000, and it is
216 shown that the rates produce $51,000, but the expense of the rate suit, if allowed, would reduce the amount to $45,000, certainly complainant would not by its own act be permitted to cause the shortage. However, in averaging past maintenance accounts, rate suits in which the company had been successful might be considered necessary expense, but in determining the sufficiency of the rates the expense of the suit at bar should not be considered.

Counsel for defendants also claim that one-half of the expense of maintaining the telephone lines should be borne by Miller & Lux, claiming that the evidence shows that Miller & Lux used them in running their ranches (referring to pp. 265, 396 and 414 of the testimony). On this question Mr. Merritt testified:

R. D. Q. 16 (p. 396). And you also stated that Miller & Lux had never been charged with any amount for use of the telephone line, other than rental of instruments that they themselves use. Will you explain to me fully how that line is used between Miller & Lux and the canal company?

A. The line was originally used entirely by the canal company, and as time went on certain of Miller & Lux's ranches connected with the company's line, partially for the purpose of being able to communicate with Miller & Lux in cases of danger to the canal from breakage or overflow and being able quickly to get such help as might be necessary from them, because we are dependent upon

Miller & Lux's men and teams for such emergency as that,
217 to do extra work that may be required; also in part for the purpose of being able to communicate with Miller & Lux regarding the water used for irrigation on their lands, and as a matter of course the connection of our lines was a convenience to some of Miller & Lux's ranches, by enabling them to order water when they wanted it, and to communicate with one another. The use by Miller & Lux in that way has not at all increased the company's expense in the maintenance of the line, and it has not resulted in any damage to the line; that is to say, the line does not wear out any faster because Miller & Lux have that use of it, and their intercommunication between ranches is principally on their own lines which are separate from the company's lines. Only a few of their ranches are able to maintain communication with each other through our lines. So that the benefit to Miller & Lux was offset by the benefit to the company, and it never had occurred to us as being a matter that required any charge to be made.

At p. 414 of the testimony Mr. Merritt testifies that while Miller & Lux *has* used the telephone in communicating from one ranch to another to some extent, he has never made any inquiry into the extent to which it is used for that purpose by Miller & Lux or by Miller & Lux's employés in connection with Miller & Lux's own business. But that it has been used by Miller & Lux and their employés in connection with Miller & Lux's own business for a good many years more or less. While Merritt states that he has not investigated as to the extent that the telephones are so used,
218 he does state that only a few of Miller & Lux's ranches are able to maintain communication with each other through the canal company's lines. If Miller & Lux used the telephone lines in connection with business which did not concern the canal company, they should pay for such use notwithstanding that no damage resulted by reason of such use, unless there is an offset by reason of services which Miller & Lux rendered the complainant, as stated by Mr. Merritt. It is my opinion that the testimony of Mr. Merritt should be accepted that the benefit to Miller & Lux was offset by the benefit to the canal company.

Defendants also claim that Miller & Lux pastured their cattle along the banks of the canal, and that the cattle greatly damaged the canals by breaking down the banks into the canals (Defendants' Brief, p. 71, referring to pp. 580, 603, 604, 610, 611 of the testimony), and that the cattle of persons other than Miller & Lux are not allowed on the canal (testimony, pp. 593, 594), and that on account of such cattle damage, at least one half the cost of cleaning the canals should be charged to Miller & Lux.

On this point defendants called D. M. Rouse, who testified that he has had considerable to do with building canals and running water for the last thirty years, and that he has been familiar with complainant's properties since 1891, that he was superintendent for complainant from 1891 to January, 1904.

At p. 580 of the testimony he testified as follows:

219 Q. 18. What effect, if any, did those cattle have upon the banks of the canal?

A. Well they were eating and drinking. Of course, they would step into the edge of the water, and it would knock the bank, cave it in; and also on top of it it would wear it out.

Q. 19. Was that caving and knocking down of the bank done by the cattle to any considerable extent, or to a small extent?

A. Well, to a considerable extent.

Q. 20. Was that detrimental or beneficial to the canal?

A. It was detrimental.

Q. 21. Did that damage by cattle take place during the length of the canal used or mentioned as being pastured by Miller & Lux?

A. Yes, sir.

Q. 22. For how many years did that go on?

A. All the time during my stay on the canal, from 1891 to 1904.

At p. 594 of the testimony he testified that there was some cattle on the canal that Mr. Miller did not own and Mr. Miller told him to have them taken away, and that when cattle other than those of Miller & Lux reached the canal, the section men would notify them to take the cattle away (p. 604).

On cross-examination (pp. 592, 593) he testifies that the cattle eat the grasses growing in the canals; that such grasses have a tendency to stop the flow of the water, which in turn causes silt; that it would be a good thing to remove it.

220 At p. 603, on redirect examination, he states that the tramping of the banks would do more damage than what little grass there is eaten,—than what grass they take out.

Defendant also called Mr. Joseph Pfister, who testified that the cattle trampled down the banks.

Q. 41 (p. 610). What effect, if any, has this grazing of cattle along the banks of the canal had upon the banks of the canal?

A. Well, they naturally tramp the banks down, muddy up the water. I see the water very dirty all the way down the canal, from the cattle standing in the water. You know, cattle in the summer of the year, when it is warm, if they have grubs on them, they tramp up and down the canal, walk up and down in the water and stand there. They don't only go in there to drink. They go and stand there.

Q. 42. You say they tramp the banks of the canal down.

A. Yes, sir.

Q. 43. Where does the material, the earth from the bank, go when they tramp it down?

A. Naturally into the bottom of the canal.

On cross-examination complainant endeavored to show that Mr. Rouse was unfriendly to the canal company by reason of certain differences had between Mr. Rouse and Mr. Miller.

X Q. 148 (p. 602). Now, Mr. Rouse, when you left the employ of the canal company, what was your condition of mind in regard to that company?

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A. Miller & Lux?

221 X Q. 149. The canal company.

A. Why Mr. Miller says: "We have been together a good while. We have quit good friends." I says: "All right, I am perfectly willing. I have no kick coming." But before he left his seat he turned around and raked me fore and aft, to everything he could think of.

X Q. 150. And as a consequence at any rate, you left in a very unfriendly frame of mind?

A. No, not when we quit. We quit with the understanding that we would be good friends.

X Q. 152. And you ultimately did leave, then, very much embittered against the company?

A. Not when I left, I did not. I have no hard feelings against them now.

Mr. Hammett, complainant's engineer, testified as follows (p. 460):

X Q. 69. What effect does the cattle standing in the canal and feeding in it have upon the capacity of the canal to hold water properly?

A. It increases it somewhat, due to the compacting and feeding off the vegetation, and the compacting of the earth around the roots.

X Q. 70. You think it is a good thing for the cattle to be turned into the canal?

A. I think it is one of the best things for the canal that there is.

X Q. 72. Does not a berm form from the silt and other

222 things coming along the canal, where the cattle break the banks down into the canal? Does not that assist the canal in silting up?

A. No, it does not. The berm forms from vegetation starting to grow and that vegetation catching the silt. If the cattle were turned into the canal every year there would practically be no berm formed because they would keep the vegetation eaten down. That is the case in the outside canal, where nearly the whole length of the canal is open to cattle, and they can come in and feed; and there is hardly any of the outside canal which has any vegetation or berm in it whatever.

In answer to X Q. 73 he states that there are very few cases where the bottom of the canal is raised from any breaking down of the banks or from any earth carrying into it, caused by the cattle.

Complainant contends that if the cattle were kept out, fences would have to be constructed, at a cost of $143.00 per mile (reply brief, p. 26).

One way in which this matter might be determined would be a comparison between the amount of canal cleaning necessarily done in the portions of the canal to which the cattle have access and the portion of the canal where no cattle run; but the testimony, while showing amounts expended for canal cleaning, does not show what portions of the canal were cleaned or the amounts applicable thereto in the portion to which the cattle have access; so that no comparison can be made by this method.

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223 While offering the testimony quoted above that such damage exists, there is no testimony by which a calculation could be made as to the extent of such damage. It will be seen from the above quotations that the testimony is contradictory. It is probable that the amount of damage done by the cattle would be offset by the expense of fencing, as claimed by complainant, and in my opinion the testimony is insufficient to support a finding that the cattle have damaged the canal to any given extent.

Taking up the maintenance account for the year ending June 30, 1908, the claims of the respective parties as to the items that should enter therein are set forth by counsel for complainant in their reply brief (pp. 34, 35).

The first item, canal cleaning, $15,760.44, I am of opinion should be averaged. Counsel for complainant in their reply brief claim that if an average is taken, the years to be considered should be 1900 to 1908, and at p. 27 of said brief state the amounts expended during those years for both canal cleaning and dredge operating and maintenance. It appears that the dredge operating was in part done in enlarging China Slough, which it is admitted was a betterment and should not be charged to maintenance, and complainant was unable to state how much of the work done by the dredger should be charged to betterment. I am therefore of opinion that the dredge operating should not be taken into consideration in arriving at the average for canal cleaning. There is an item in the maintenance account of 1907-1908 for dredge operating,

224 $1309.35. It appears from the testimony that for that year the dredge was not employed in any betterment work, and I have concluded not to average the dredge operating expenses, but to allow this item of $1309.35 for dredge operating in 1907-8 to remain in the maintenance account, and to average only the items of canal cleaning. Such items are as follows:

1900	$13,252.14
1901	329.50
1902	277.55
1903	460.50
1904	850.34
1905	3,490.49
1906	13,747.14
1907	6,500.00
1907	8,977.26
1908	6,783.14
	$54,668.06

The average is therefore $6,074.23, which is the amount I shall allow for canal cleaning.

225 The next item is labor. Defendants claim that this item should be averaged, but complainant states that labor is now much higher, and that an average would not be fair. The charges for labor commencing with the year 1900 are as follows:

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1900	$5,124.93
1901	5,339.02
1902	6,538.25
1903	8,877.06
1904	9,902.39
1905	12,078.04
1906	13,242.81
1907	10,007.35
1908	11,034.05

It will be seen from the above that there has been a considerable advance in the amount expended for labor since 1900, and that within the last four or five years the amount has been on an average fully as large as the amount charged in the year ending 1908. And this tends to support the claim of counsel that the price of labor has advanced, and for such reason it seems to me that the average for a period of nine years would not fairly represent the reasonable expense of such labor at this time. I shall allow the item of $11,034.05 for labor without deduction.

The item legal expense totals $18,407.54. Counsel for defendants claim that it appears that most of the suits have been finally disposed of, that the case of Turner v. Eastside C. & I. Co. will determine all controversies with Stevens and the East Side Canal &
226 Irrigation Company, referring to Mr. Merritt's testimony, p. 361, and that consequently there is no good reason why any amount should hereafter be allowed on account of litigation, for it comes under the head of extraordinary expenses. Counsel for complainant deny that the litigation is nearly ended or that their expense therefore will probably be less.

Taking up the items of litigation and omitting the cost of litigation brought to set aside rates fixed by the supervisors, the maintenance accounts show the following:

The year 1900 shows only an item of "Legal Expense, Company v. Stanislaus County." I will therefore omit this year and begin with the year 1901.

	Legal expenses.	Co. v. Stanislaus Co. (which I assume is the former rate case).
1901	$2,977.30	$7,105.00
1902	1,609.25	1,046.60
1903	15,891.95	1,077.45
1904	13,400.00	4,246.34
		5,807.37 (water
1905	19,245.49	6.75 rate
1906	21,144.90	1,232.25 contest.
1907	6,045.38	3,554.57
		752.05 (water rates, new proceeding.)
1908	13,456.24	4,064.80 (water rate contest.)
	$93,770.51	$28,893.18

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227 The average per year for such eight years is $11,721.31, which is the amount I shall allow under the head of legal expenses.

The maintenance account for the year 1907-8 as found by me according to the foregoing conclusions, is as follows:

Canal Cleaning		$6,074.23
Damage Claims		192.28
Dredge Operating:		
Expense	$459.35	
Depreciation	850.00	
		1,309.35
Expense, General		2,034.98
Expense, Automobile		1,343.29
Expense, S. F. Office		440.64
Horses and Feed		3,548.02
Household Furniture		233.48
Instruments and Office Fixtures		143.40
Labor		11,034.05
Legal Expense		11,721.31
Lumber & Piles		822.08
Rent, S. F. Office		800.00
Firebaugh Weir		1,537.57
Irrecoverable accounts		378.29
Repairs to Headworks		1,574.86
Repainting Section Houses		597.20
Re-surveying and Mapping		2,373.49
Salaries		6,929.49
Subsistence		4,276.22
San Luis Outside Waste Gate		407.41
Taxes		8,319.44
Telephone Maintenance		282.17
Tools and Machinery		21.93
Vehicles and Harness		571.16
Wood		148.50
		$67,114.84

228 *Waste Waters Delivered to Miller & Lux for Which No Charge is Made.*

Counsel for defendants (brief, p. 59) contend that there should be added to Miller & Lux's water bill $10,000.00 for the irrigation of 20,000 acres of their wild grass lands for pasturage, and for which Miller & Lux paid nothing. This matter was the subject of considerable testimony.

Referring to this subject, Mr. Merritt makes the following statement (p. 255):

"One of the contracts with Miller & Lux recites that Miller & Lux have a right to use the surplus water for their land, for their

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uncultivated lands, and surplus water has for many years been delivered to them, and no charge has been made for it. By surplus water we mean water that has been taken into the canal, and for which there is no demand, and we have to get rid of it somewhere, and by contract with Miller & Lux we can place the waste water on their lands, and it flows over their uncultivated lands and so back into the river, and that water in a sense may be considered their water, because as riparian owners they have a right to divert that water on their lands themselves. But we never have called it their water, so far as I know. We simply have this agreement with them that we shall be permitted to turn our surplus water for which there is no other demand and which we have got to get rid of out of the canal, we shall turn it out on their lands and then it flows over their uncultivated lands."

At p. 487 of the testimony counsel for complainant made
229 the following statement:

"We would prefer, your Honor, to take the position in the case that this matter as to the number of acres that is swamped with this waste water is not a material factor in the case, while it might become a very material factor in other litigation and no doubt it will; and we would be perfectly willing, as at present advised, to admit for the purpose of this case, but not for any other purpose, that the amount of waste through those ditches (referring to the waste gates through which this water is delivered to Miller & Lux's land), or the number of acres that are flooded by waste through those ditches that have been referred to by the witness, amounts to between 19,000 and 20,000 acres, rather than have both parties be compelled to put in testimony upon the matter, if that is satisfactory to counsel."

This admission was accepted by counsel, subject to their admission of proof to show that it was otherwise. No such evidence was offered, and I take it that therefore under such admission 20,000 represents the number of acres to which the waste waters in question were delivered.

First, as to the contention that Miller & Lux were entitled to these waters by virtue of the contract referred to by Mr. Merritt. This contract is Exhibit No. 10, which I have heretofore referred to in this opinion. This contract, as appeared, was made after an investigation by a committee appointed at a meeting of the Board of Directors to investigate the question of the right of Miller &
230 Lux to these waste waters, and which committee reported, as appears, that Miller & Lux have not parted with the right to any waters not required by the canal company for its customers, and that they were of right entitled to these waste waters. I have heretofore shown in this opinion that Exhibits Nos. 6, 7 and 8, which were the original contracts between Miller & Lux and the first company and the company which succeeded it, makes no reservation to Miller & Lux of the right to any waste waters from the canals. The only provision relating to the matter of water is that in the event the canal company should reduce the amount of water which naturally overflowed from certain sloughs, then an

equivalent amount of water should be delivered to Miller & Lux from the canal. The minutes of the board of directors at p. 220 of the testimony, which was a proceeding before Miller & Lux had obtained control of the canal company, show that Miller & Lux made application for certain waste waters, and that such application was rejected. The making of such application is inconsistent with the present contention that Miller & Lux reserved unto themselves the right to all waters taken by the canal company in excess of the amount necessary to supply its customers. Shortly after this rejection, Miller & Lux obtained control of the board of directors of the canal company, and thereafter such waste waters were evidently delivered to Miller & Lux, for the question does not arise again until it is made the subject of the contract Exhibit No. 10.

231 In addition to recognizing the right of Miller & Lux to such waste waters by reason of the claimed reservation to them, the contract provides further that Miller & Lux agreed to permit the canal company to appropriate and divert from said river, through its outside canal, 350 cubic feet per second of the water flowing in said river, in addition to the aforesaid 800 cubic feet, referring to 800 cubic feet which had theretofore been diverted. This contract was made at about the time that the outside canal was completed.

Counsel for defendants claim that it nowhere appears that Miller & Lux owned said 350 feet or had such water to convey to the canal company. So far as the testimony shows, there is no evidence that Miller & Lux owned such water prior to the recited conveyance to them in this contract, Exhibit No. 10. As I have heretofore shown, there never has seemed to be any question as to the right of the canal company to divert from the river water to the extent of the capacity of the canal, and I do not deem it material in this case whether or not Miller & Lux owned such water as they purport to convey to the canal company in consideration for the use of the excess waters.

The board of directors of the canal company passed a resolution on May 24, 1904, in regard to the sale of water for irrigation on wild grass lands. This resolution recites (p. 298) that:

"Whereas there are lands within the flow of the company's canals which are not cultivated, and on which no crop is artificially planted or grown, but which, if irrigated, would produce considerable quantities of natural grasses and other feed for stock;

232 and the owners thereof would irrigate said lands if waters were furnished at a price which would justify such irrigation, but are unable to do so at the prices now fixed for cultivated lands;

Now, therefore, for the purpose of encouraging irrigation, and of extending the benefits of the company's system over as great an area as possible,

Be it resolved, that the rates for water for irrigation of uncultivated lands, on which no crop is artificially planted or grown, are hereby fixed as follows:

In the county of Stanislaus, 75 cents per acre for each irrigation.

In the county of Merced, 50 cents per acre for each irrigation. In the county of Fresno, 30 cents per acre for each irrigation."

It appears that the only application for such waters was made by Miller & Lux, and that in the year 1904 Miller & Lux paid for the irrigation of 14,639 acres under this rate (p. 300), and it is claimed that Miller & Lux took such water and paid for it at such rate, for the purpose of establishing a priority of right to irrigate certain lands with such waters (p. 300). It appears that they have since continued to take such water, but that no charge has been made therefor. It also appears that the rates so established have never been rescinded (p. 299).

It seems very clear that the resolution in question and the rate fixed was made for the purpose of affording to Miller & Lux the opportunity of obtaining a prior right to such water, for, while the resolution recites that "for the purpose of encouraging irrigation and of extending the benefits of the company's system over
233 as great an area as possible" such rates were fixed, it does not appear that any consumer other than Miller & Lux had ever had use of such waters, and it does appear that after such rates were fixed, no consumer other than Miller & Lux made application for such waters. The making of such application by Miller & Lux, and the payment by them for such waters in the year 1904 to the canal company is inconsistent with the claim that such waters were the property of Miller & Lux, and that Miller & Lux had always reserved to themselves the right to such waters, and also inconsistent with the claim made to such waters by the contract Exhibit No. 10. Such application seems to me an abandonment of any such claim of right to the waters in Miller & Lux, if any such right ever existed.

In view of the foregoing statements I am of the opinion that the waste waters in question belong to the canal company.

The next question is the claim of counsel for complainant that it is a benefit to the canal company to waste such waters over the lands of Miller & Lux, inasmuch as it would be necessary for the canal company to construct ditches to carry off such waste water.

The necessity for the wasting of these waters arises from the fact that consumers of water may suddenly shut off irrigation, and that the result would be that unless there were waste gates provided the volume of water in the canal would burst the banks, and that there must be waste ways for the purpose of protecting the canal in the event of such contingency. The principal waste ways of
234 the canal are as follows (pp. 456, 457 of the testimony): Firebaugh waste, seven miles from the head of the canal; Camp 13 waste, twenty-five miles from the head of the canal; Los Banos waste, 38 miles; Quinto waste, 52 miles; Los Garzos waste, 56 miles; Orestimba waste, 68 miles. The waters wasted through Firebaugh waste are returned to the river, and the Orestimba waste flows through a creek toward the river. Water wasted through these two waste ways does not go over the lands of Miller & Lux, and Miller & Lux receives no benefit from the waters wasted through the same (testimony, p. 551).

At p. 486, Mr. Hammett, complainant's engineer, testified as follows:

X Q. 265. This land over which this so-called waste water flows, is it not leveed and checked up for the purpose of utilizing it in spreading it over the lands of Miller & Lux?

A. It is.

X Q. 266. And is not that leveeing and checking up and spreading of the water done for the purpose of raising feed for the cattle of Miller & Lux, and also in some places of sucking out the alkali from the soil?

A. It is.

X Q. 267. And a great many of the cattle of Miller & Lux actually do graze upon land treated that way, do they not?

A. Yes.

X Q. 268. And in other cases is it not a fact that land so treated with those so-called waste waters have been partially or en-
235 tirely reclaimed from alkali and made valuable for farming land?

A. It is.

X Q. 271. (p. 488). And Miller & Lux as a matter of fact do graze large herds of cattle upon the land so watered, do they not? (Referring to lands in question, irrigated by the waste waters in question.)

A. They do.

X Q. 272. They do reclaim alkali lands by that means, do they?

A. They do.

Mr. Rouse, who was formerly complainant's superintendent, testified (pp. 581, 582) that water was wasted on Miller & Lux's lands during the irrigation season, that such land is used for pasturing purposes, to pasture the cattle of Miller & Lux; that such waters were wasted at Camp 13, and at Los Banos waste, and at the Los Garzos waste. In reply to Q. 48 (p. 582) he testified:

Q. Were these swamp or pasture lands of Miller & Lux practically in the same place all the time since you have known them?

A. Well, they are getting larger all the time.

Q. 49. Please answer the question.

A. Yes, sir; the same.

Q. 50. Are they getting larger or smaller?

A. They are getting larger.

Q. 51. In what county do they principally lie?

236 A. They most of them are in Merced County.

On cross examination (X Q. 132, p. 600) by complainant, he is asked whether or not he testified in a former case as follows:

"Q. Now, Mr. Rowse, how familiar were you with the use of this water upon these swamps? A. Well, I seen a great deal of it turned in and run down to the swamps.

"Q. Did you go down and see what was being done with the water upon those lands? A. Not until within the last year or so; I went through the swamps and noticed it.

"Q. Before that time you did not have any intimate acquaintance with it? A. No."

Did you so testify?

A. Yes.

X Q. 133. Now, didn't you testify also as follows in that same case: "I aimed to have as little waste as possible, to carry all I could. I could not carry it all. I had to waste some." Didn't you so testify?

A. Yes sir.

At p. 585 the witness testified, in reply to Q. 81:

Q. You had control of the water, did you not?

A. Yes sir.

Q. 82. The delivery of it?

—. Yes sir.

Q. 83. Will you state whether any water was turned on without your consent by any customer?

A. Miller & Lux used to take it out whenever they wanted it. If it was there they took it.

237 Q. 84. Without asking you?

A. Yes sir.

Q. 85. What water was that?

A. The water that was in the canal.

Q. 86. Was it or was it not these waste waters that you have been talking about?

A. No, it was not waste water.

Q. 87. I ask you whether or not it was waters that they were to pay for or that they were supposed to pay for?

A. Yes sir.

Mr. Rowse also testified, at page 590, referring to the Orestimba waste, from which no waters were delivered over the lands of Miller & Lux, as follows:

X Q. 33. What would be the average amount that would be wasted out through there?

A. Well, I could not tell you the average amount. As a general thing there was not as much water wasted through there as there was above, because we never wasted water through there unless it was to protect the canal. We had a good many people irrigating. They would shut down for some cause when the water was being delivered, and that water would then have to be run through the creek back into the river.

The statement by Mr. Rowse in the testimony in the former case and which was brought out by counsel for complainant, that "I seen a great deal of it turned in and run down to the swamps" and also his statement given in the case at bar that there was not as much wasted in the Orestimba waste, where Miller & Lux received no benefit, "because we never wasted water there unless it was to

238 protect the canal," would indicate that water other than water necessarily wasted was being run down to the swamps. It also appears from the quotations above that Miller & Lux had

free access in turning in the waters that they desired. The record is very indefinite as to the total quantity of water delivered or wasted over these lands of Miller & Lux.

Mr. Hammett, complainant's engineer, made certain measurements of the waste waters, in making his calculation as to the amount of loss of water in the canal by seepage and evaporation, which I have heretofore referred to, and the quantities of water so wasted at the different waste ways for the week commencing July 1, 1908, are stated at page 475 of the testimony. He states that no water was wasted through the Firebaugh waste, which is the waste nearest the head of the canal, but there was a leakage estimated at 2 cubic feet per second. He then gives the amounts wasted at Camp 13, Los Banos, Los Garzos, and Orestimba. I have totaled the amount of such waste for such week, and the total sum is 1336.23 second feet, which means 1336.23 cubic feet flowing each second for 24 hours. This is the total of second feet for the week and not the total for 24 hours. Deducting from such total second feet the waste at Firebaugh and Orestimba, from which Miller & Lux derived no benefit, leaves 1040.81 second feet. The testimony shows that this waste occurs when the largest amount of water is being carried. It does not appear from the testimony that this waste would be an average waste during the whole irrigation
239 season. However, this waste was taken at a time when the canal was carrying nearly its full capacity. The testimony shows that the irrigation period is about six months, commencing in the latter portion of March and closing about the last of September. Taking the period as twenty-six weeks, the total amount of waste, if such figure can be taken as an average, would be 27,040 second feet wasted upon the lands of Miller & Lux. It is admitted that 20,000 acres of such grass and swamp lands were irrigated.

To irrigate cultivated lands requires 1.276 second feet for 24 hours per acre (complainant's Exhibit No. 27). No testimony was offered by complainant as to the duty of water upon wild grass lands. Mr. Henderson, defendant's witness, testifies that it takes more water for wild grass lands than for alfalfa or cultivated crops, because wild grass land is not prepared in as careful a manner as ordinarily alfalfa fields are prepared.

Referring to his testimony in another case with reference to wild grass land (at p. 889) he testified that the duty of water was from 35 to 50 acres for a cubic foot. Assuming that it would require one cubic foot (one cubic foot of water flowing every second for the irrigation season of 180 days) to irrigate 50 acres, it would require 3.6 second feet per acre, and to irrigate 20,000 acres would take 72,000 feet, or nearly three times as much water on the average as the waste for the week in question, if the same represents
240 the average for the season.

The duty of water on cultivated lands, as stated by Mr. Hammett in his Exhibit No. 27, is 1.276 second feet for 24 hours per acre. At this rate 27,040 second feet waste waters would irrigate 21,191.2 acres. Mr. Henderson stated that his reference to 35 to 50 acres as being required to irrigate certain lands, is probably

the most extravagant use of water (p. 889, testimony). That the water was used more extravagantly upon these swamp lands than upon cultivated lands would seem reasonably certain. Mr. Rowse, complainant's former superintendent, stated (p. 589), that he had seen water in the lower part of the swamp at what is called Camp 13, the year around.

The total waters taken in by complainant's canals for the year in question was 278,691.18 second feet. This is shown by defendants' Exhibit K, which was prepared by complainant at the request of defendants.

I have made a calculation as to the amount of water carried out of the irrigation season and find that the same approximates about 70,000 second feet, which shows that considerable quantities of water were carried outside of the irrigation season. This water may have been treated by the canal company as waste, and a portion of this water may have been delivered to the swamp lands.

At p. 299 Mr. Merritt testified as follows:

Q. Was that resolution (referring to the resolution of 1904 fixing the rate for wild grass lands) ever rescinded by the board of
241 directors of complainant's predecessor, or by complainant?

A. I think not. I do not recall any such action.

X Q. 530. Did Miller & Lux after this year, 1904, pay any sums into the canal company for irrigating uncultivated lands under that resolution?

A. No.

X Q. 531. Did the canal company make any demand upon Miller & Lux that they should pay the canal company for irrigating uncultivated lands for the year 1904?

A. Certainly not. They have a contract which gives Miller & Lux the right to irrigate such lands from surplus water without any payment, and they have not irrigated them except from surplus water. They were not obliged, so far as their relations with the canal company were concerned, to apply for this water under the rate that was given, if they intended to use surplus water. If they used other water, then of course the case was different. But when they used the surplus water of the canal company the canal company has no right to make a charge under that contract.

X Q. 533. Did any person or corporation or concern other than Miller & Lux take advantage of that resolution fixing rates for uncultivated lands in 1904?

A. Not so far as I now recollect.

X Q. 534. You said in your former examination that that rate was fixed for uncultivated lands in 1904, to fix a pro rata for Miller & Lux, did you not?

242 A. I hardly think I said that.

X Q. 535. What was it you said?

A. I said that Miller & Lux elected to apply for irrigation under that rate and pay for it, in order that they might establish a priority of right to those lands under the canal, to irrigate those lands from the canal.

X Q. 536. That is, this amount of land mentioned by you in 1904, 14,639 acres?

A. Yes.

X Q. 537. As to that particular piece?

A. As to that amount, yes.

X Q. 538. Now, in regard to the uncultivated lands which you say Miller & Lux claimed the right by contract to the waste or surplus waters, that is much more, is it not, than those 14,639 acres?

A. No. All of the acreage irrigated that year by them was included in that bill, according to the reports that were made by us. All of the uncultivated lands which they irrigated that year were irrigated under that special rate.

These answers seem to indicate that the waters used to irrigate these uncultivated lands embraced generally the surplus waters of the canal company, and did not necessarily mean such waters as it would be necessary for them to waste to protect the canal.

I am satisfied that Miller & Lux are deriving a substantial benefit from the use of these waters, and having decided that such
243 waters belong to the canal company, it is a discrimination for the company to furnish such waters to Miller & Lux without compensation. The claim that it will be necessary for complainant to construct ditches to carry off this water if it was not permitted to waste such water on the lands of Miller & Lux, I do not deem can seriously be maintained, as complainant could regulate its intake and also has other waste ways, the Firebaugh and the Orestimba wastes, which furnish an outlet for surplus water taken in. In any event, it does not appear that the expense of constructing other wastes would be offset by the benefits that is derived by the canal company by wasting these waters over the lands of Miller & Lux.

The question as to the amount that should be charged for these waters, and which the canal company should be deemed to have received from Miller & Lux is one of some difficulty. There is only one rate fixed for irrigation by the counties, but if it appeared that the class of irrigation, to wit, the irrigation of these uncultivated lands, is such that the consumer would not take water for such use, if required to pay the county price, it would seem that the company should be permitted to sell such waters at such a price as it could obtain therefor, and thus increase its revenues to the benefit of the water rate payers generally. Inasmuch as the complainant does not see fit to charge Miller & Lux for these waters, for the purpose of ascertaining the revenues of the company for the purpose of fixing rates, an equitable method seems to me would be to charge to
244 Miller & Lux the proportion of the investment involved in furnishing such waters to them, and the proportion of the maintenance expense involved in furnishing the same. But the testimony does not enable me to make such a calculation. The company having itself fixed a rate for such waters, which rate has never been rescinded, the same may be assumed to be a reasonable rate, and I shall take this rate as the amount to be charged per acre. The testimony does not show exactly where all the lands irrigated by the surplus waste waters are located. However, it is stated by Mr. Rowse

that the lands are principally in Merced County, and I shall fix the rate to be paid as the rate fixed by the complainant for Merced County, to wit, 50 cents an acre; and the amount on 20,000 acres as $10,000.00.

Water Alleged by Complainant to Have Been Carried for Miller & Lux and for which a Carriage Charge only is Made.

Counsel for defendants claim that Miller & Lux should be charged at the respective county rates for irrigation of 14,111.65 acres of land, for the irrigation of which the canal company carried the waters and charged therefor only a carriage charge. The facts relating to what is termed carriage waters appear to be as follows:

In the case of Stevenson v. San Joaquin & Kings River Canal Company, decided by the Superior Court of the County of Merced, on the 2d day of April, 1906, which suit involved the ques-
245 tion of the amount of water which the canal company is entitled to divert from the San Joaquin River, it was adjudged that the canal company, first, is "not entitled to divert from San Joaquin River and carry or conduct onto any non-riparian land any greater quantity of water than 760 cubic feet of water a second;" and, second, "that the quantity of water which the defendant may lawfully divert from said river for use upon lands riparian to said river is not in issue in this action, and there is no evidence from which the same can be determined, and the same is not hereby determined;" and judgment was entered enjoining and restraining the canal company from diverting above the lands of the plaintiff in that suit more than 760 cubic feet of water per second from the San Joaquin River on any lands not riparian to said river. After the announcement of what would be the decision of the Court, the canal company entered into a contract with Miller & Lux and the Las Animas and San Joaquin Land Company, Incorporated, which contract recited that the parties of the second and third part to said contract, said Miller & Lux, and said land company, are owners of lands riparian to the San Joaquin River, that such parties desire to divert water from said river above the dam or weir and within the pond or reservoir caused by said dam, and that such parties of the second and third part were not then provided with sufficient canal system to carry said waters to all portions of the said lands and desired, pending the completion of their canal systems, that
246 the canal company should conduct through its canals some portion of the waters to be diverted by the parties of the second and third part, and that, whereas by reason of the decision in the Stevenson case aforesaid "it appears that the quantity of water which the party of the first part (the canal company) will hereafter be allowed to divert from said river will be less than the capacity of its canals, and will be less than sufficient to enable the party of the first part to supply all the necessary demands of its present customers, and that,

"Whereas the parties of the second and third part are willing, in the event that the party of the first part will allow them the aforesaid use of its dam or weirs or canals, to assist in relieving the party

of the first part, by irrigating their riparian lands with water diverted by them as aforesaid, thus permitting the party of the first part to use the water diverted by it for the irrigation of non-riparian lands."

Said contract then refers to the construction by the parties of the second and third part of what is called the Helm Canal, which canal encroaches upon the right of way of the canal company. The contract then makes certain stipulations in regard to the right of way of the Helm Canal, and then provides that the parties of the second and third parts may divert from the San Joaquin River at a point above the dam aforesaid any water not belonging to the canal company and which it is not entitled to divert, or which at the time it does not desire to divert from the river, on the condition that the second and third parties pay to the canal company annually their reasonable share of the annual expense of such dam or weir,
and that the total annual expense of said dam or weir is fixed
247 and agreed upon to be $2200.00, and such sum was to be
apportioned between the parties in proportion to the respective amounts of water severally diverted by them during the year ending on the 15th day of November then next preceding. The contract then provides that the parties of the second and third part shall pay a carriage charge for any waters diverted by them, as aforesaid, at the rate of one-half of one cent for each twenty-four hours for each second foot of water for each mile that the same is carried, and the loss in transit by evaporation and seepage to be estimated at 1 per cent per mile, and the quantity of water which the canal company shall deliver to the parties of the second and third parts shall be the amount turned in less one per cent for each mile the same is so carried.

I call attention to the paragraph of the contract which recites that by reason of the decision in the Stevenson case the quantity of water which the canal company will hereafter be allowed to divert from said river will be less than the capacity of its canals, and the contract purports, as one of the considerations, that the parties of the second and third part will relieve the canal company by irrigating the riparian lands owned by the parties of the second and third part, by the water provided to be diverted by this contract, and thus permitting the canal company to use the water diverted by it for the irrigation of non-riparian lands.

It seems that at first this decision limiting the company
248 to 760 feet of water for non-riparian lands was taken to limit
the company in its total diversion to 760 feet, that is, that said canal company was not entitled to take any additional waters for use on riparian lands or otherwise. These riparian lands which the parties of the second and third part were thus to irrigate, were lands which had theretofore been irrigated from the canal and for the irrigation of which the canal company had always been paid. The parties of the second and third part, or at least Miller & Lux, started the construction of what is known as the Helm Canal, and which takes its waters above the dam, as referred to in the contract, and has been constructed for about three miles, and then empties

into the main canal of the canal company. It was the original intention to construct this canal to connect with what is known as the Poso Canal, which is also a canal belonging to Miller & Lux and which canal connects with the main canal of the canal company. Had the Helm Canal been connected with said Poso Canal, water could have been diverted from the river without the carrying of it through the canals of the canal company.

Later it was ascertained that the canal company had not been limited to 760 feet, and that the decree (which can be found at p. 1027 of the testimony), specifically provided that it did not determine and limit the quantity of water which the canal company was entitled to divert from the river for use upon lands riparian to said river (p. 1029 of the testimony).

It was therefore found that this contract could not be given effect so far as delivery of water upon riparian lands, and Miller
249 & Lux during the year ending June 30, 1908, the year involved in the suit at bar, did irrigate 24,126.25 acres of riparian lands, and paid the full county rates for the irrigation of such riparian lands. As a matter of fact it does not appear that any waters were ever delivered on riparian lands under this contract, and it will be noted that this contract does not provide for the delivery of water to non-riparian lands. It is claimed by the complainant that 14,111.65 acres of non-riparian lands were irrigated by waters carried for Miller & Lux by virtue of this contract, Exhibit E; that the water by which this land was irrigated was what is termed water in excess of the 760 feet which the company owns for non-riparian lands and all the water carried by the company for riparian lands irrigated by it.

That such was the interpretation of the decision, and the condition of affairs, is shown by the testimony of Mr. Merritt, found at p. 406. I may preface this by stating that the year ending 1908 is the first year that a carriage charge was made for any waters claimed to have been carried by the canal company for Miller & Lux, and that while, since the execution of the contract Exhibit E, complainant claims it has carried water in excess of the 760 feet and the amount it was entitled to for riparian lands, and that such water was carried for Miller & Lux, such waters were paid for by Miller & Lux at the full county rates, for the reason that the canal company was unable to calculate the amount of such waters carried by reason of insufficient measurements, but that for the year 1908
250 they had obtained the necessary measurements and have computed the amount of such excess waters carried.

Returning to Mr. Merritt's statement at p. 406, replying to a question relating to these excess waters, he states that "although it was our intention to follow the terms of the contract, Exhibit E, there were found to be two difficulties in doing it. In the first place, the instructions that had been given were with a view to carrying out the terms of that contract. That contract was based on the assumption that the decree would limit us strictly to the 760 second feet. As a matter of fact, the decree did not limit us to 760 feet, and the instructions were not changed to conform to the changed

conditions resulting from the decree as actually entered, which allowed them to irrigate riparian lands in excess of 760 feet.' And he then explains that although since said decree the canal company had carried more water than allowed to them, which excess water it is claimed was carried by the canal company for Miller & Lux, by reason of insufficient data they were forced to charge Miller & Lux the full county rates for such water.

As to the method by which the quantity of water claimed to have been carried for Miller & Lux was measured, it appears that this quantity of water was not the subject of specific measurement at the intake, that is, when taken in at the head of the canal; in other words, they did not admit, say 50 cubic feet a day, and measure it at the head, as it went into the canal, as being water belonging to Miller & Lux, but what such quantity of water was is the
251 subject of computation, involving a calculation of the quantity of water delivered to riparian lands and the quantity of water carried in addition to such water for riparian lands, and the 760 feet allowed for non-riparian lands. Inasmuch as complainant was entitled to sufficient water to irrigate all of the riparian lands, such excess water would consequently represent water placed on non-riparian lands.

In explanation of the method by which the carriage charge in question is computed, Mr. Hammett, complainent's engineer, prepared certain statements which have been filed, marked complainant's Exhibit No. 27. This exhibit consists of certain reports, one dated October 9, 1908, and another dated October 30, 1908. The report of October 30th contains certain corrections of the report of October 9th. The corrected report contained an increase of 111.75 acres, which is so small as to make no material difference in the ultimate results, and I will refer to both reports, without attempting to make allowances for the difference of this 111.75 acres. It is a matter of some difficulty to point out and explain the computations in these exhibits.

The following is a statement of the acreage irrigated:

Miller & Lux's riparian lands	24,126.25	acres.
Miller & Lux's non-riparian lands	20,715.02	acres.
All other persons	34,050.7	acres.
Making	78,891.97	acres.
In addition to this	14,111.65	acres
were irrigated by waters for which the carriage charge now under consideration is made making a total of	93,003.62	acres.

252 The total non-riparian lands irrigated is:

Miller & Lux	20,715.02	acres.
All other consumers	34,050.7	
Making	54,765.72	

I am assuming that the lands irrigated for all other persons are non-riparian, there being no testimony that the lands of any consumers others than Miller & Lux were riparian.

In the taking of the testimony there was an error made in the statement as to the number of non-riparian lands irrigated in Fresno County, as 11,175.7 acres, which should have been 1,175.7 (p. 465). This error has been admitted and corrected, and the corrected acreage is as I have stated it.

Counsel for defendants claim that the 760 feet of water allowed the canal company for non-riparian lands was amply sufficient to irrigate the 54,765.72 acres of non-riparian land irrigated and also the 14,111.65 acres of non-riparian land for which a carriage charge was made, and that therefore Miller & Lux should be charged with the acreage rate instead of the carriage rate for such waters.

If the canal company had sufficient waters to irrigate these 14,111.65 acres in addition to other non-riparian lands irrigated then there is much force in defendants' contention, for, as I have shown, the contract Exhibit E never contemplated the delivery of water upon non-riparian lands, and had the situation been such as it was thought to be at the time this contract was made, and the company limited to 760 feet, such contract would be a very beneficial
253 one to the canal company. But it is otherwise if the canal company has sufficient water to irrigate all its riparian lands and all the non-riparian lands, including the 14,111.65 acres. It certainly would be a discrimination to carry at a nominal charge these waters for Miller & Lux. The question then presented would be, would the canal company be justified in carrying at a small charge waters for Miller & Lux to irrigate said 14,111.65 acres when otherwise Miller & Lux would be compelled to purchase water from it to irrigate these lands, if they desired to irrigate them. For the carriage charge the company would receive about $1000.00, but for the sale of the water for these lands the company would receive $14,513.53. These lands, if heretofore irrigated, were irrigated from the canals of complainant and the water therefor purchased from the canal company.

Exhibit K, heretofore referred to, is a statement of the total water taken in by the canal company, both through the main canal and the Helm canal. And I may add in explanation at this point that during the year in question, ending 1908, it was the practice of the canal company to carry only 760 feet in the main canal, taking the rest of the intake from the river through the Helm Canal, but all such waters taken in through the Helm Canal were waters of the canal company, unless the carriage waters are excepted.

This Exhibit K shows the intake for the fiscal year 1907-1908. Such fiscal year does not correspond with the irrigation year, which is stated to be from April 1st to September 30th. There is no statement in evidence showing the intake for the irrigation
254 season of 1907. The statement Exhibit K, commencing with July 1, 1907, therefore gives the amount of water carried in the months of July, August and September of the irrigation season of 1907, and the months of April, May and June of the irrigation

season of 1908. It appears, however, from the testimony, that there ordinarily is no scarcity of water during the month of April, May and June. I take it therefore that the figures for April, May and June of 1908 may be taken as representing an average intake for those months, such intake being nearly in full capacity of the canals. I will, therefore, consider the figures of Exhibit K for the months of April, May and June of 1908, and July, August and September of 1907, as representing an irrigation season.

Taking the first figure in Exhibit K, reading 118,859,—this is intended to be 1188.59, the decimal point being omitted throughout the statement, and means that 1188.59 cubic feet of water was taken in at the head of the main canal each second for 24 hours for the day for which the figure is given, July 1, 1907. The total number of second feet taken in for the year commencing July 1, 1907, and ending June 30, 1908, was 278,691.18. To ascertain the amount of water taken in during the irrigation season I have deducted from the total intake for the year the amount of water carried outside of such irrigation period, and such amount is 69,759.08 second feet, which leaves 208,933.10 second feet of water taken in at the head of the canal during the irrigation period. This is an
255 average of about 1155 second feet per day. In computing the number of acres which could be irrigated from the water taken in in the year in question I am only considering the water taken in during the irrigation period. Irrigation was carried on in other months, for it appears in defendants' Exhibit L that lands were irrigated for barley in February and for alfalfa in December and January. But there is no record showing the amount of water delivered for irrigation, by months. The average intake for the months outside of the said irrigation period is as follows:

	Second feet.	Average per day.
October	13,364.37	431.11
November	9,740.73	324.69
December	8,435.08	272.10
January	7,924.82	255.64
February	10,580.80	364.85
March	19,713.28	635.91

The amount carried in September, the last month in the irrigation season, was 19,886.10 second feet, being an average of 662.87. The quantity of water carried in March and in October would indicate that considerable irrigation was going on during those months.

It is claimed by complainant that with the water to which the company is entitled for non-riparian lands, to wit, the 760 feet, there were irrigated 54,765.72 acres of non-riparian lands. A portion of these waters may have been used on riparian lands. This
256 would occur when there was insufficient water running in the river to enable the canal company to take its 760 feet and also water for riparian lands. In the year in question this did not occur during the irrigation period, except in the month of Septem-

ber. In the month of August, while it appears from the affidavit of Professor Fortier, hereinafter referred to, that the average flow of the river is 453 feet, there was taken this year not less than 1000 on any day, and the average for the month was 1153.25; so that the month of September is the only month in which any portion of the waters of the 760 feet was required for riparian lands. The proportion of waters taken for riparian lands might be ascertained by taking the proportion that the riparian lands bear to the total lands irrigated. The total lands irrigated from the canal was 93,003.62, and the riparian lands irrigated 24,126.25 acres, or about 25 per cent.; so that the waters out of the 760 feet irrigating riparian lands in the year in question would not exceed 5000 second feet. Complainant, therefore, had the following quantity of water for use on non-riparian lands, to wit, 760 feet for the months of April, May, June, July and August, and for the month of September 14,914.58 second feet (for 24 hours), being a total intake for the month, less the proportion that may have been placed on riparian lands, being an average of 497.15 second feet per day.

Complainant put in evidence, by consent, the affidavit of Samuel Fortier, found in the printed volume of affidavits filed on motion for injunction, at p. 169. This affidavit is made on the basis
257 that the company is entitled to divert 760 cubic feet per second whenever there is that much water in the river, and at p. 174 Mr. Fortier states that it is evident that unless the water is used much more economically under this system than it is in other parts of the San Joaquin Valley there will not be sufficient water to irrigate more than 100,000 acres. He is undoubtedly referring to the quantities of water that he gives at p. 173, being 760 cubic feet in the months of April, May, June and July, and 453 feet in August, and 245 feet in September, Mr. Fortier stating that certain measurements made shows that such is the amount of average flow of the river in the months of August and September. As heretofore shown, the amount actually taken in this year in August and September was much more, and for the purpose of ascertaining the number of acres which could be irrigated from the waters actually taken in this year, the actual figures should be taken instead of the average.

Professor Fortier states (p. 173 of his affidavit) that the amount of water required to properly irrigate land in San Joaquin Valley under careful and economical use varies from two or three acre feet per acre, and that he knows of no water right contracts in that valley which permit a less amount of water for irrigation purposes than one cubic foot per second for each 160 acres of land, and that taking the irrigation period to extend over a period of six months, this rate would deliver 2.25 acre feet to each acre. This computation is made as follows: 1 cubic foot per second for one day equals 86,400 cubic feet; for the irrigation season of 180 days this equals 15,552,000 cubic feet, to irrigate 160 acres; and to irrigate one acre,
258 97,200 cubic feet; dividing this by the number of square feet in an acre, to wit, 43,560, gives 2.23 as the number of acre feet, which I understand represents the depth of water which

is required to be placed on the land. Professor Fortier states that his estimate of 2.25 acre feet is the amount of water required, and does not include the transmission losses in the main canals. He also says (p. 173) that the total volume of water in acre feet which the company would be able to take, based on the average flow as aforesaid, is 227,003.74. And he concludes that such 227,000 acre feet would not be more than sufficient to irrigate 100,000 acres.

He states that in computing the total amount of water available at the head of the main canal the losses due to seepage, evaporation and leakage were included. By this I take it he means that he has not deducted anything by reason of such losses, and that the 227,000 acre feet does not represent the amount which could actually be put on the land. That such is his meaning is apparent by computing his total volume of water in acre feet. To illustrate, he states: "April, average flow in cubic feet per second, 760 feet; total volume of water in acre feet, 45,144." The total volume in acre feet is ascertained by multiplying the number of cubic feet per second (760) by the number of seconds in a day (86,400), which gives 65,664,000 cubic feet per day. Multiplying by the number of days in the month of April (30), gives 1,969,920,000 cubic feet of water for the month of April. This divided by the number of square feet in one acre (43,560), gives 45,223
259 acre feet. This result is slightly different from the amount given by Professor Fortier. It therefore appears that the total volume of acre feet stated by Professor Fortier represents the quantity of water at the head or intake, and I conclude that he has not in his calculations made any deductions for losses due to seepage, evaporation, leakage or waste.

In addition to the losses by seepage, evaporation and leakage, it is claimed there is a further loss by reason of necessary waste, that is, it is impossible to utilize the entire quantity of water taken in, as heretofore stated, that by the sudden shutting off of irrigation it is necessary to waste the waters through the waste gates. The amount of water lost by seepage and evaporation according to the testimony offered by complainant is as follows: 12.43 per cent. is lost in delivering the water in the county of Fresno; 33.9 per cent. in the County of Merced, and 53.67 per cent. in delivering the same in the County of Stanislaus. The average loss due to seepage, evaporation and leakage is claimed by complainant to be about one-third. To this is to be added the amount of necessary waste. There are no figures on this waste other than the figures of the waste for the week commencing July 1, which I have heretofore referred to. The total waste shown for that week is 1336.23 second feet. It is stated that such waste occurs mostly at times when the largest amount of irrigation is being done, and therefore may not represent an aver-
age. It this is taken as an average the amount of such waste
260 would be 1336.23 multiplied by 26 (the number of weeks in the season), which makes 34,741.98 second feet, which means that number of second feet flowing for 24 hours. The total amount of water carried during the season, as before stated, is approximately 208,000 second feet. Such waste, therefore, represents

about 16.7 per cent. This is just about one-sixth. According to this calculation, of the total waters taken in, one-third is lost by seepage and evaporation and one-sixth by waste, or one-half of the total waters taken in is lost.

The actual quantity of water required to be placed on the land to irrigate all of the lands irrigated in the year- 1907-8 is as follows: It appears that on lands irrigated for Miller & Lux it required 1.276 second feet for twenty-four hours to irrigate one acre, and for other consumers 1.223 second feet. 44841.27 acres irrigated for Miller & Lux at 1.276 second feet per acre would require 57217.46 second feet. 14,111.65 acres irrigated for Miller & Lux (for which the carriage charge only is made) at 1.276 second feet per acre would require 18,006.46 second feet. 34,050.7 acres irrigated for other consumers at 1.223 second feet per acre would require 41,644 second feet. This makes a total of 116,867.92 second feet. The total intake, as heretofore stated, was 208,933 second feet. It appears that certain water in addition to this was taken in through what is called the River Canal, which has a capacity of about 50 second feet, and which takes its waters direct from the river. How much water was carried in this canal does not appear. It is in evidence that
261 about 600 or 700 acres were irrigated from this canal. I do not deem it necessary to take this into consideration, as it would not materially change the computation. 208,933 second feet intake, less 116,867.92 second feet required on the land, leaves 92,065 second feet, which represents the water lost from all causes. This is just about 44 per cent.

It necessarily follows that if this is the amount actually lost in the canals of this company that Professor Fortier's estimate that 227,000 acre feet, which he figures is the average available quantity of water, based on the assumption that the canal company is entitled to 760 feet, will not irrigate 100,000 acres, but will irrigate only 56,000 acres. I take it that Professor Fortier must have assumed that the amount lost in carriage was much less than the amount claimed by complainant to have been so lost.

The total volume in acre feet carried during the irrigation season of 1907 available on non-riparian land, was as follows:

	Cubic feet.	Acre feet.
April (30 days)	760	45,223
May (31 days)	760	46,730
June (30 days)	760	45,223
July (31 days)	760	46,730
August (31 days)	760	46,730
September (30 days) (estimated)	500	29,752
		260,388

(An average of 663 feet was carried in September 163 feet being estimated by me as required for riparian lands.)

262 This makes a total of 260,388 acre feet, being the amount of acre feet taken in at the head. Assuming that 44 per

cent. is lost in transmission, as before stated, this would leave 145,818 acre feet on the land.

Exhibit No. 27, compiled by Mr. Hammett, shows that 48,926.44 acres irrigated from the main canal and its branches for Miller & Lux required 62,429.61 second feet, that is, that such number of cubic feet per second carried for 24 hours would irrigate said number of acres, and dividing said 62,429.61 by 48,926.44 gives 1.276 second feet for twenty-four hours required per acre. The exhibit also shows that the duty of water used by other consumers than Miller & Lux was 1.223 second feet per acre, or slightly less than that of Miller & Lux. Mr. Hammett, in his testimony at p. 450, states that "the total water taken in at the head of the main canal and the Helm Canal was 62,429.61 second feet for twenty-four hours." The total land irrigated by that water was 48,926.44 acres. According to this, if Mr. Hammett meant, as stated, that such quantity of water taken in at the head would irrigate that number of acres, it would follow that at this rate of 1.276, the 208,000 second feet carried during the irrigation season would irrigate approximately 162,000 acres. I take it that he did not mean that that many second feet taken in at the head would irrigate said 48,926.44 acres, but that he means that such quantity of water placed on the land would so irrigate. Reducing this amount of 1.276 second feet for 24 hours per acre to acre feet, which is done by multiplying 1.276 by the number of seconds in the day (86,400), gives 110,246.4 cubic feet, which is
263 sufficient to irrigate one acre of land during the season. Dividing the same by the number of square feet in an acre (43,560), gives 2.52 acre feet, as being the actual amount of water according to complainant's testimony used in the irrigation of Miller & Lux's land. The amount required per acre would be somewhat less for other consumers. The rate for other people is 1.223 second feet, which reduced to acre feet equals 2.425 acre feet. As heretofore stated, there were 34,050.7 acres irrigated for consumers other than Miller & Lux. This, at the rate of 2.425 would require 82,573 acre feet delivered on the land. Complainant claims that there were irrigated for Miller & Lux, out of 760 feet, 20,715 acres, which, at the rate of 2.52 acre feet per acre, would require 52,202 acre feet, making a total of 134,775 acre feet to irrigate lands claimed by complainant to have been irrigated by it out of the waters allowed for non-riparian lands; and, as shown above, after making allowances for seepage, evaporation, leakage and waste of 44 per cent., according to the intake as shown, complainant would have only 145,818 acre feet for non-riparian lands, being 11,043 acre feet more than required to irrigate said 54,765 acres of non-riparian lands, or sufficient to irrigate about 4,417 acres.

I am unable to accept these figures as representing the number of acres that could be irrigated with the 760 feet for non-riparian lands for the following reasons:

Professor Fortier is conceded to be an authority on the subject concerning which his affidavit is offered. His affidavit can-
264 not be construed otherwise than being to the effect that the 760 cubic feet would irrigate, with careful use, approximately

100,000 acres, although in his figures he has not made an estimate of the amount of water lost in transmission. It does not seem possible that if at least 44 per cent. of the waters taken in is lost, that he would overlook such fact, and that he made a mistake as to the duty of said quantity of water to the extent of 44,000 acres. This leads me to believe that complainant's measurements as to the amount of seepage and evaporation are not correct.

At p. 16 of complainant's reply brief, counsel make a calculation as to the acreage which could be irrigated when the canals were carrying to their full capacity in April, May, June and July, and an average flow for August and September, to wit:

April	1300 cubic feet
May	1300 cubic feet
June	1300 cubic feet
July	1300 cubic feet
August	453 cubic feet
September	245 cubic feet
	5898 cubic feet

The figures for August and September are the average flow stated by Professor Fortier for said months. Counsel for complainant show that, taking Professor Fortier's statement as to the amount of water required to be delivered on the land at 2.5 acre feet per acre (being the mean between 2 and 3 feet stated by Professor Fortier), such amount of water would irrigate only 93,600 acres. The actual amount according to Mr. Hammett required to irrigate the lands of Miller & Lux was 2.52, and other consumers 2.425.) In making this calculation counsel deduct one-third for loss by seepage and evaporation, but make no allowance for necessary waste, and claim that it is impossible to deliver all of such water upon the land, evidently referring to the necessary waste. 265

Taking the aforesaid 5,898 cubic feet of water and dividing by 6, gives 983 cubic feet as the average flow per month. Deducting 44 per cent. for loss leaves 550.48 cubic feet for irrigation. Complainant shows that 2.5 acre feet equals 1.26 second feet for 24 hours, which would irrigate 436.88 acres, and 550.48 second feet for 180 days will irrigate 180x436.88 acres, or 78,639.8 acres.

In its bill herein, complainant states that the greatest area for the irrigation of which the complainant or its predecessor has ever furnished or been called upon to furnish water is 103,980 acres, which was in 1905. It appears in evidence that complainant for several years has been selling to Miller and Lux water for use in the Columbia Canal (hereinafter considered), for which $3,000.00 a year was charged. The quantity of such water is not given. The said 103,980 acres, therefore, does not represent all the land that could have been irrigated from the canals. Yet, if the complainant is to be given the allowance estimated of 44 per cent. loss, the canal used to its full capacity would irrigate only 78,639.8 acres, in an average year, which conclusively shows that the allowance for seepage, evaporation and waste is too large, there being a difference of

25,320 acres between the number of acres actually irrigated
266 and the amount which could be irrigated on the basis of 44 per cent. loss. It may be that in the year 1905 in which 103,980 acres were irrigated a greater quantity of water than the average was carried during the months of August and September, but as complainant was able, in addition to irrigating 103,980 acres to sell $3,000.00 worth of water for the Columbia Canal, there would not be much force in the proposition that it required more than the average flow to irrigate said 103,980 acres.

As heretofore shown, there was available for use on non-riparian lands in 1907, 260,388 acre feet. There was irrigated of non-riparian lands 54,765 acres, for which the county rates were paid, and 14,111 acres for which the carriage charge only was made, making a total of 68,876 acres. At the rate of 2.5 acre feet delivered on the land, 172,190 acre feet would be required to irrigate said 68,876 acres. Deducting from said 260,388 acre feet said 172,190 acre feet leaves 88,198 for loss by seepage, evaporation and waste. This is 33.87 per cent. After a very careful consideration of this question I am of the opinion that such percentage of loss would fully cover all necessary losses. This is 31,124 acres less than Professor Fortier's estimate of 100,000 as the possible acreage which might be irrigated, and his estimate is made on the basis of an intake of only 227,003 acre feet. I therefore conclude that complainant had sufficient water to irrigate the 14,111 acres for which a carriage charge only is made.

The question now presented is whether or not Miller & Lux
267 shall be deemed to pay the county rates for the irrigation of said 14,111 acres.

Referring to the contract (Exhibit E), which, as shown, provides only for the carriage of water for riparian land, it is clear that such contract was made solely because of the belief that the decision in the Stevenson case aforesaid limited the canal company to a total intake of 760 feet and that with such intake the canal company would not be able to irrigate, in addition to the non-riparian lands of its customers, all the riparian lands of Miller & Lux and of the Las Animas & San Joaquin Land Company which had theretofore been irrigated by the canal company. It developed afterwards that the canal company's right to take water for such riparian lands was not determined in that case, and the necessity for the company to carry water for said companies to irrigate said riparian lands did not arise, and none was carried. In like manner, if the canal company has sufficient water to irrigate said 14,111 acres of non-riparian land, the necessity for it to carry water for Miller & Lux in order to enable them to continue to irrigate the same does not arise.

It appears that Mr. Henry Miller is president of complainant, and that he and the interests he represents control both the Canal Company and the corporation of Miller & Lux. Under those circumstances the dealings of the Canal Company with Miller & Lux must be in the utmost good faith, and it must come into a
268 court of equity with clean hands. It is not contemplated by the contract (Exhibit E) that water should be carried at

a carriage charge for lands which the company had theretofore irrigated and which it was still able to irrigate. It is a perversion of the objects of this contract (which, had the situation been as supposed, was a beneficial arrangement for the Canal Company), to apply the same to the carriage of water to lands which the Canal Company is able to irrigate, and thus deprive it of a revenue of over $12,000.00.

For the foregoing reasons I find that complainant should be deemed to have received from Miller & Lux the county rates for the irrigation of said 14,111 acres, amounting to $14,513.53.

I might add that if it satisfactorily appeared that by reason of an unusual amount of water in August and September, 1907, the company was able to irrigate as much as 68,876 acres of non-riparian lands but would not on the average be able to irrigate that many acres, the average acreage should be taken in determining complainant's revenues. It does not appear from the evidence that since the decision in the Stevenson case, complainant has been unable to irrigate all the non-riparian lands which it had theretofore irrigated, or that said 68,876 acres of non-riparian lands is more than it has formerly irrigated.

If I am in error in this conclusion, and a carriage charge only should be made, I am of the opinion that the carriage charge should be computed in the manner suggested by Mr. Henderson
269 (testimony, p. 732), and concerning which counsel for complainant (reply brief, p. 20) state they make no criticism, except that his figures set forth in Appendices A and B of defendants' brief are faulty. Mr. Henderson's method is as follows: the water carried for Miller & Lux is 15.4 per cent. of all the water carried. Taking 15.4 per cent. of the value of the property useful in the carrying of such water and allowing 6 per cent. interest on such property and 7 per cent. for maintenance.

Counsel for complainant point out that Mr. Henderson figures on a basis of the carriage of the water for 23 miles, when the average distance is only 5.16 miles. The manner of computing the charge set out at p. 21 of complainant's reply brief, appears to me to be correct. Upon the valuations found by me the carriage charge would be made up as follows:

Taking Mr. Goodwin's estimates of value, 25 per cent. is to be deducted from structures and 25.4 per cent. from earthwork, and 30 per cent. from structures for depreciation.

270	River Weir	$54,046.00	
	Headgate	12,638.91	
China Slough Weir		3,814.86	
		$70,499.77	
Less 25%		17,624.94	
		$52,874.83	
Less 30% depreciation		15,862.45	
			$37,021.38

Buildings		1,455.00
Main Canal Earthwork	$74,200.00	
Parallel Canal	14,000.00	
Dos Palos Canal	21,294.00	
China Slough	1,700.00	
	$111,194.00	
Less 25.4%	28,243.27	
	$82,950.73	
Less 17.84/23	64,340.75	
		18,609.98
Total		$57,077.36
15.4% of which is		$8,789.91
13 per cent. of which latter sum makes a carriage charge of		$1,142.69

271 Defendants Claim that Complainant's Canals Are Larger Than Necessary.

Counsel for defendants, at p. 33 of their brief, claim that complainant's canals are larger than required to irrigate the paying area irrigated; that such canals have a capacity to distribute 1300 cubic feet of water per second, which is 540 cubic feet more water than the 760 feet that complainant alleges in its complaint to be owned, diverted and distributed by it, and as sufficient to irrigate 103,980 acres of land, and that accordingly four-tenths of the alleged valuation of complainant's plant should be deducted in this proceeding as unnecessary and useless.

Counsel refer to the allegation in the bill, paragraph 8, "that complainant is and was for more than one year last past also the owner of the right to divert from the said San Joaquin River and into its said canals not less than 760 cubic feet of water per second, when there is so much water flowing in said river at complainant's headworks, and when less than that quantity is there flowing, then all the water there flowing in said river." The complaint nowhere makes mention of the right of the canal company to divert any water for riparian lands. Counsel for complainant in their reply brief call attention to the words not less than 760 feet, and state that "as a matter of fact the company owns 760 feet for non-riparian lands and a reasonable amount for riparian lands." There

272 are two matters appearing in this connection which I think I should call attention to. In the affidavit of Henry Miller, introduced upon the application for preliminary injunction, and printed in the affidavits filed on motion for injunction, at p. 194, Mr. Miller makes the following statement, after referring to the matter of silting in the canal: "Notwithstanding such silting and the consequent decrease in the capacity of said canals, they

are, and were at all times during the year 1907, capable of carrying and distributing 760 cubic feet of water per second, which amount, though much less than the original capacity of said canals, is all the water which complainant is now allowed to divert from the San Joaquin River; and said main canal does now actually carry and during the whole of the year 1907 did actually carry all of the water which complainant was so allowed to divert from said river, less such quantity as was lost by the way, by natural and unavoidable seepage and evaporation." Mr. Miller states in his affidavit that he is president of the complainant organization and was also for many years the president of its predecessor, and that he has had general charge and control of all the business of said corporations; and all of their officers have acted under his orders; that he has personally supervised all the operations of said company and now does so (affidavit, p. 194).

Also, in Exhibit E, which is the contract last considered herein, it is stated: "Whereas, by reason of the decision which has been announced by the Superior Court of Merced County in the action brought by J. J. Stevinson against the party of the first part
273 (the canal company), it appears that the quantity of water which the party of the first part will hereafter be allowed to divert from said river will be less than the capacity of its canals, and will be less than sufficient to enable the party of the first part to supply all the necessary demands of its present consumers." These two admissions tend to sustain defendants' contention that the canals are too large, unless the same are explained.

The complaint also alleges (par. 9) that the greatest area for the irrigation of which complainant or its predecessor has ever furnished or been called upon to furnish water in said counties is 103,980 acres, and that there is no reason to expect or believe that said areas or either of them will or can be increased for several years.

The position of counsel for defendant that if the canals are larger than necessary for the needs of the consumers that they should not be required to pay a return on the full value of the property, is sustained, I believe, by the decision of the United States Supreme Court in the case of San Diego Land & Town Co. v. Jasper, 189 U. S. 439, in which I find the following, at p. 447: "If a plant is built, as probably this was, for a larger area than it finds itself able to supply, or apart from that, if it does not as yet have the customers contemplated, neither justice nor the constitution requires that, say, two-thirds of the contemplated number should pay a full return. The only ground for such a claim is the statute taken strictly according to its letter. But when a case is brought here on a constitutional ground which wholly fails, we cer-
274 tainly shall not be astute to support it upon another which we could not consider apart from the failing foundation, and which has nothing to commend it but the letter of the law. The statute of California no doubt was contemplating the case of water works fully occupied within the area which they intended to supply. It hardly can have meant that a system constructed

for 6,000 acres should have a full return upon its value from 500, if those were all that it supplied. At all events we will not be the first to say so. If necessary to avoid that result, we should assume that only a proportionate part of the system was actually used and useful within the meaning of the statute." The court was referring to the provision of the California statute that the board should estimate the value of the property actually used and useful in furnishing the water, and specifying what things the board should take into consideration.

The two matters referred to seem to be direct admissions by the complainant that the company's canals are too large for the amount of water to which the company is now entitled. As shown, Exhibit E was made upon the assumption that the Stevenson case limited the company strictly to 760 feet, and that as heretofore shown it was afterwards ascertained that the company was entitled to additional water sufficient to irrigate certain riparian lands, so that it would not necessarily follow that if such additional waters were considered such contract Exhibit E would mean that the
275 quantity of water allowed to the company is less than the capacity of the canals; but such an explanation would not apply to the affidavit of Mr. Henry Miller, unless we also assume that when this suit was commenced the complaint was drawn on the assumption that the canal company was strictly limited to 760 feet, which is strongly indicated by Mr. Henry Miller's statement that such 760 feet is all the water which the complainant is now allowed to divert from the San Joaquin River. It seems to me that, taking the allegations of the complaint, and the statement in the affidavit of Mr. Miller aforesaid, and the affidavit of Professor Fortier offered on the preliminary injunction, in which he also limits his calculation to 760 feet, at the institution of this suit it was deemed that the canal company was entitled to divert only 760 feet of water, and that it was not entitled to any other waters, for riparian lands or otherwise, and that when Mr. Miller states that the water which the company is entitled to divert is much less than the original capacity of the canals, he is not considering the riparian lands theretofore irrigated by the canal company, or that the company is entitled to take water therefor. The claim of counsel for the defendant that the canals are too large is based upon the limitation of 760 feet as the amount of water complainant is entitled to divert. At p. 63 of their brief counsel for defendants make a calculation on the assumption that the complaint alleges that the
760 cubic feet of water *is* sufficient to irrigate 103,980
276 acres, and that the canal is about four-tenths too large. However, if the complaint was drawn on the assumption that the company was limited to 760 feet, such assumption has been abandoned before me, and it is admitted by counsel (p. 16 of their brief) that complainant is entitled, in addition to the 760 feet, to a reasonable amount of water for riparian lands (p. 16, reply brief), and the question presented, it seems to me, is whether these canals, taking 760 feet for non-riparian lands and a reasonable amount for riparian lands, are too large. Exhibit K, heretofore referred to,

showing the intake through the main and Helm canals, shows that during most of the irrigation season the intake was nearly the full capacity of the canals, although 15.4 per cent. of the water carried was claimed to have been carried for Miller & Lux.

It has not been made to appear before me what quantity of water, if any, was lost to the canal company by the Stevinson decision. So far as the record shows, complainant is able to irrigate all the lands that it has heretofore irrigated. The acreage irrigated — 1907-8 was some 10,000 acres less than the largest amount ever irrigated, and it does not appear that if called upon to irrigate such largest amount it would be unable to do so.

If complainant is unable to now irrigate such maximum amount heretofore irrigated, I see no other conclusion but that the canals are now to some extent too large, and under the decision of the Supreme Court in San Diego Land & Town Co. v. Jasper aforesaid, the consumers could not be required to pay a return on prop-
277 erty not necessary in supplying them. I take it that there would be no difference in this respect whether the property was rendered too large by loss of water or originally constructed larger than the needs of the communities supplied.

With an allowance of 760 feet for non-riparian lands and a reasonable amount for riparian lands (which, in the year 1907-8, was 24,126 acres), I am of the opinion that the canals are reasonably proportioned to the needs of the communities supplied, and that the canal company could supply said maximum demand.

Defendants Claim That Miller & Lux Should Be Charged with Interest on Certain Alleged Unpaid Accounts.

Counsel for defendants (p. 56 of their brief) claim that there should be added to the water bill against Miller & Lux $9,958.40, being the annual interest at 7 per cent. on a balance of $142,263 unpaid complainant by Miller & Lux for irrigation of their uncultivated lands. This matter, briefly stated, is as follows: Counsel for complainant claim that Miller & Lux were entitled under the contracts referred to to a special rate of $1.25 per acre for one season, that such rate was one-half the rate paid by others for the season, and that when the Board of Supervisors in 1904 reduced the rates, Miller & Lux's bills were erroneously made out for one-half of the regular rate (the rate fixed by the counties), instead of for
278 $1.25. When this was discovered the matter was submitted to the attorneys for the company and the attorneys for Miller & Lux, and they having disagreed the matter was submitted to Mr. McEnerney, who advised that Miller & Lux should continue to pay $1.25, and the difference between that amount and the amount paid, to wit, $66,000.00, was paid by Miller & Lux to the canal company. Counsel for defendants claim that the testimony shows that in 1904 Miller & Lux owed the complainant on account of such undercharge the sum of $208,263.00, and that the matter being compromised for $66,000.00 was a discriminating agreement, and that therefore Miller & Lux are still chargeable with the balance of $142,263.00, or with interest at 7 per cent. on such amount. The

$208,263.00 was testified to by Mr. Merritt as representing the total advantage that Miller & Lux have derived over other consumers by reason of the special contracts made with the water company. The testimony on this point can be found at pp. 159, 160, 164 and 165 of the testimony. I do not think it can be claimed that Miller & Lux would be chargeable with all the advantages that they have received from the special contracts had with the company, and it does not appear that the sum of $66,000.00 paid does not represent the amount or a reasonable settlement as to the undercharged amount called for by their special contracts. In other words, while they might be chargeable with the amount called for by their contracts, they would not be chargeable with the total advantage derived by them by virtue of such contracts. It is admitted that for the purposes of this case, in computing the revenues of complainant,
279 Miller & Lux should be deemed to pay the regular county rates for all waters belonging to the canal company and delivered to them, and aside from the question as to whether any amount is due from Miller & Lux, it seems to me that such alleged indebtedness, even if it did exist, is immaterial in this case. For the purpose of ascertaining whether or not the rates are sufficient we are only concerned with what are the revenues of complainant for the water actually sold and delivered in the year in question, and the values of the properties used by the company in supplying the same.

Item of $1200.00 Paid by Miller & Lux for Water for Town of Los Banos.

Counsel for defendants (p. 40 of their brief) claim that Exhibit No. 27, which is Miller & Lux's water bill, does not contain the item of $1200.00 paid for water for the town of Los Banos. Complainant replies to this (reply brief, p. 19) that this was not charged in the bill of Miller & Lux, but that the profit and loss account for 1907 and 1908 did include all of the company's receipts from the sale of water to which Mr. Merritt testified.

280 *Water Alleged to Have Been Sold by the Canal Company to Miller & Lux for the Columbia Canal.*

Defendants, in their brief, p. 40, claim that there should be added to Miller & Lux's bill the sum of $3,000.00 for water claimed to have been delivered to the Columbia Canal. Evidence relating to this can be found at pp. 341, 342, 343, 374, 376 and 462. At p. 374 Mr. Merritt testifies that it had been the practice for the canal company to deliver certain water to Miller & Lux for the Columbia Canal. At p. 375, referring to testimony given in the former case, it appears that Mr. Merritt testified in such case that water had been delivered to Miller & Lux for use on the East Side, which I take it refers to the Columbia Canal, since 1899, and had been so furnished that very year. Counsel for complainant in their reply brief, claim that no

water was furnished to the Columbia Canal for the years 1907 and 1908, referring to Mr. Hammett's testimony (p. 462).

Mr. Merritt testifies that he does not know of any case where Miller & Lux have got water on the East Side at times when they did not have the right to it outside, that is, when there was not more than 760 feet flowing in the river.

X Q. But you don't know of their having used any of the canal company's water over on the East Side.

A. No.

At p. 341 Mr. Merritt testified that the period that Miller & Lux had been obtaining water from the Columbia Canal reaches back a number of years.

281 X Q. 820 (p. 342). Up to what period?

A. How recently?

X Q. 821. Yes sir.

A. The probability is that they have used that privilege every year more or less. But the superintendent has overlooked reporting that fact for two years past, and he has now instructions to look it up and see what the use was.

X Q. 822. When did he commence that examination?

A. I do not know how recently when he discovered it, myself.

X Q. 823. When did you discover it, Mr. Merritt?

A. I don't remember just when it was, but it was within a year or two.

Mr. Merritt then stated that he had no separate accounts for water delivered to the Columbia Canal, that it went into the general accounts.

X Q. 827. I understand you to say that for the past two years no charges or collections have been made by the canal company (referring to water for the Columbia Canal)?

A. I think it is two years.

X Q. 831 (p. 343). Have you any recollection as to what that amounted to annually—the receipts?

A. About $3,000.00.

X Q. 832. Was that $3,000.00 included in your reports and statements here as to the revenue of the canal company for the several years?

A. I think not. I told the bookkeeper to eliminate that, and I suppose it was done.

While Mr. Merritt testified that the books would show what receipts were taken in on account of sales for water to the
282 Columbia canal (p. 342), and was asked to produce an account at the next hearing, such account was not produced, so far as I am able to ascertain. On the next hearing Mr. Merritt is questioned somewhat as to the contract between the canal company and Miller & Lux for delivering water to the Columbia canal, and states that there was no provision in the contract relating to the matter. But his testimony does not throw any further light upon the question as to whether any water was sold for the Columbia canal in the year 1907-8.

It will be seen that the testimony in regard to this subject is very

indefinite. Mr. Hammett does not know, and while Mr. Merritt testifies that it had been the practice to furnish such water, no charge is made for the year in question. And it is not clear what Mr. Merritt means by the statement that he told the bookkeeper to eliminate the statement relating to the water sold to the Columbia Canal in the statement of revenues. Probably he means that he did not think it necessary to include a statement showing the revenues relating to this matter in making up his statement of revenues for this case. At p. 342 he stated that the superintendent has overlooked reporting the fact in regard to any orders sold to the Columbia Canal for two years past. This testimony was given in October 1908. The two years, therefore, embrace the years 1907 and 1908. It seems to me that defendant could have pursued this inquiry further and have definitely ascertained whether in fact any water was delivered
283 in the year in question. Complainant has produced a statement of revenues in this case, purporting to be all the revenues from the sale of water.

In view of the fact that there is no positive testimony that any water was sold to the Columbia Canal in the years 1907 and 1908, I do not feel justified in finding that water was so sold. The fact that no water was reported for about two years prior to the time that the witness testified to might indicate that no water was sold.

Federal Excise Tax on Corporations.

Counsel for complainant, in their Correction to Argument for Complainant, claim that an allowance should be made in the maintenance account to meet the excise tax of "one per centum upon the entire net income over and above $5000.00 received by it from all sources during the year," imposed by Section 38 of the Act of Congress approved August 5, 1907.

Counsel for defendants, in their reply thereto, contend that said allowance should not be made; that such tax is intended to be borne solely by the stockholders of the corporation, after the net income of the corporation has been ascertained; and that to allow the same would place the tax upon the consumers of the water sold by complainant.

The question is a new one and no authorities are cited by counsel. When the legislative power undertakes to regulate the return which may be derived upon property devoted to a public use, it has been held to be in effect the taking of such property for
284 public use, and taxes upon such property are allowed as maintenance. This has not been questioned in this case, and the State and County taxes have been so allowed, and in this manner are borne by the water takers. The same would be true of a license tax on corporations, or a tax on its franchise. The principle it seems to me would be the same whether the tax is upon the property or upon the business or income of a corporation whose property is devoted to a public use. I see no reason why the public should not bear a tax which is incident to conducting such business, or why the income of a corporation should be reduced below the

amount granted the corporation by law. The amount to be allowed, however, should be based upon an income of six per cent. I have found the value of complainant's property to be $896,829.55, 6 per cent of which is $53,809.77. Deducting $5000.00 not subject to tax, leaves $48,809.77, one per cent of which is $488.10, the amount to be allowed and added to the maintenance account.

Defendant's Contention that Complainant has not Made Proof of its Annual Maintenance Expense of the Part of its Plant Useful to the Respective Counties.

Counsel for defendants, at p. 6 of their brief, state: "Complainant is entitled to no relief, since its complaint is based upon the theory and allegations that the supervisors of each county fixed a rate that was unreasonably low with reference to the value of its plant useful to each county, and it failed to introduce evidence of any
285 kind, either before the supervisors of any county, or on the trial of this suit, as to what its annual operating or maintenance expense was for operating or maintaining that part of its plant useful to any county, or even that part of its plant that lay within any county."

Counsel for complainant reply that they have proven the value of the property in the respective counties, and that the expense of maintenance chargeable to the respective counties is a matter of computation, that the method of computation is set forth in Appendix I in volume of Oral Argument of M. F. McCormick on motion for preliminary injunction, and counsel for complainant, in their opening brief, state that when the Master shall have determined the facts necessary as data they would prepare, if the Master desires it, a computation of the value of the property used and useful in supplying water to the respective counties, and the portion of complainant's expenses to be borne by the respective counties. Counsel for defendants have not objected to the method of such computations proposed by complainant.

As I have found that the revenues derived from the three counties taken together provide a return of at least 6 per cent upon complainant's property, I do not deem it necessary to make such computation. However, if counsel for complainant desires to do so, they may submit such computation, serving a copy thereof upon counsel for defendants.

286 *Receipts.*

A statement of complainant's receipts, printed in their reply brief, p. 34, is as follows:

Sale of water	$108,324.16
Interest and Discount	163.48
Rent	751.50
Difference between special rate to Miller & Lux and board rate	4,108.65
Total	$113,347.79

As the item sale of water includes $1163.97 paid by Miller & Lux as a carriage charge this amount should be deducted	1,163.97
Leaving	$112,183.82
To this should be added the amount payable by Miller & Lux for the irrigation of 14,111.65 acres, for which the carriage charge only was made, and which I find should be charged at the respective county rates, which amounts to	14,513.53
Also for the irrigation by Miller & Lux of 20,000 acres of wild land at 50 cents an acre	10,000.00
Total	$136,697.35

287 I have not made a statement of receipts by counties for the reason that I have not been able to ascertain the exact acreage irrigated in the respective counties. Exhibit No. 28 shows a total of 80,621 acres irrigated, and Exhibit No. 27 shows land irrigated for Miller & Lux, 44,841.25 acres, for consumers, 34,050.70 acres; total, 78,891.95 acres. And I have been unable to find why this difference appears.

If counsel desire to present a statement of the receipts by counties, showing the acreage by counties, including the 14,111 acres for the irrigation of which complainant claims a carriage charge only should be made, they may do so, and I will incorporate same in my report.

288 *Summary.*

Fresno County:		
Value of Earthwork	$155,370.73	
Value of Structures	99,439.12	
Rights of Way	13,414.00	
Land at Headworks	1,568.80	
		$269,792.65
Merced County:		
Value of Structures	$104,137.40	
Value of Earthwork	243,060.08	
Rights of Way	101,955.00	
Land at Quinto Section House	7,700.00	
Los Banos Lots	600.00	
		457,452.48
Stanislaus County:		
Value of Earthwork	$31,064.47	
Value of Structures	17,284.08	
Rights of Way	28,750.00	
		77,098.55
Total of above property		$804,343.68

Additional personal property kept on hand.....	8,930.84
Interest at 7 per cent on investment during construction	63,555.03
Amount of money necessary to be kept on hand.....	20,000.00
Total value upon which complainant is entitled to a net income of at least 6 per cent.....	$896,829.55

Total receipts		$136,697.35
Maintenance Account	67,114.84	
Excise Tax	488.10	
		67,602.94
Net income.....		$69,094.41

$69,094.41 divided by $896,829.55, equals 7.704 per cent income.

289 For the reasons set out in this opinion, I find that the concurrent operation of the annual rates fixed by the respective Boards of Supervisors of the three counties of Fresno, Merced and Stanislaus, to go into effect on the 1st day of July, 1907, would produce a net income upon all the property of complainant used and useful in the appropriation and furnishing of water to the inhabitants of said counties in the year commencing July 1, 1907, of 7.704 per cent., and that such net income would be a just and reasonable compensation to the complainant for the furnishing of such water.

In conclusion I wish to state that I have been somewhat concerned because of the length of this report. That it has reached such length may be explained by the fact that I have had in mind the request of counsel for complainant, both in their brief and upon their oral argument, that every claim made be passed upon. In their reply brief (p. 2), counsel state, "For the purpose of facilitating the case in its future stages, we trust your Honor, in making a report, will specifically pass upon each of the claims made." I have endeavored to comply with this request, and in doing so my report is necessarily of greater length than it otherwise would have been.

Respectfully submitted.

E. H. HEACOCK,
Master in Chancery.

Dated, May 11 1910.

290 In the Circuit Court of the United States in and for the Northern District of California.

In Equity. No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (a Corporation), Complainant,
vs.
COUNTY OF STANISLAUS et al., Defendants.

To the Hon. E. H. Heacock, Referee and Master in Chancery:

Pursuant to your Honor's suggestion, the complainant in the above entitled suit suggests the following corrections to be made to the draft of the report in the above entitled suit:

1. Page 1, last line, change "who" to "which."
2. Page 12, line 10, change "e" including to "e."
3. Page 28, change "85,315.56" to "86,315.56," and make corresponding changes in other figures on that page.
4. Pages 29 to 33: In these pages we think your Honor has fallen into this error; the total number of cubic yards of excavation according to Mr. Goodwin and as found by your Honor is

5,367,768, for which your Honor allows 8c. per cubic yard, which would amount to	$429,421.44
To this should be added 10% for engineering, surveying and general superintendence, amounting to	42,942.14
Making the total amount to be allowed for excavation	$472,363.58

291 In the figures of your Honor the cost per cubic yard of earthwork is arrived at by adding the 10% for engineering, surveying and general superintendence and then making a horizontal reduction. This causes a reduction in the 10% which all of the witnesses conceded was a conservative estimate of the amount to be allowed for that work. There is nothing in the report except this error in figuring which would indicate a different idea in your Honor's mind.

In regard to these pages also we would suggest that it would simplify matters if the table in regard to cost of structures was transferred to the portion of the report dealing with "Valuation of Structures." To carry out these ideas we would suggest the following amendments: Omit from line 16, page 29, beginning with "Counsel for defendant" down to and including the end of page 33, and insert in lieu thereof the following:

"The total amount of excavation as found by me is 5,367,768 cubic yards. The following is a table, the figures for which I have taken from Mr. Goodwin's report:

Fresno County.

	Cu. yds.	At ¢.	
China Slough (main canal)	17,000	5	$850.00
Main Canal	732,900	10	73,290.00
Parallel Canal, Fresno	347,040	10	34,704.00
Dos Palos, Main Canal	109,617	10	10,961.70
Side Canal	8,450	7	591.50
Dos Palos Branch No. 1	38,787	8	3,102.96
" " " " 2	14,124	8	1,129.92
Outside Canal	532,400	10	53,240.00
Side Canal	80,000	7	5,600.00
Outlet Canal No. 1	18,835	10	1,883.50
Outlet Canal No. 2	18,900	8	1,512.00
Outlet Canal No. 3	24,724	10	2,472.40
	1,942,777		190,179.48

292 Merced County.

	Cu. yds.	At ¢.	
Main Canal	467,900	10	$46,790.00
Drain Canal	46,320	7	3,242.40
Extension A, Main Canal	840,694	10	84,069.40
Parallel Canal	396,106	10	39,610.60
Dos Palos Canal	26,908	10	2,690.80
Dos Palos Canal, Extension	68,112	10	6,811.20
Dos Palos, Branch No. 1	61,525	8	4,922.00
Dos Palos, Branch No. 2	63,655	8	5,092.40
Dos Palos, Branch No. 3	58,571	8	4,685.68
Dos Palos, Branch No. 4	19,344	7	1,354.08
Outside Canal	445,225	10	44,522.50
Side Canal	62,800	7	4,396.00
Outside Canal, Extension	456,655	10	45,665.50
Outlet Canal, No. 4	6,118	8	489.44
Outlet Canal, No. 5	23,200	8	1,856.00
	3,043,133		$296,198.00

Stanislaus County.

Main Canal, Extension A	232,504	10	$23,250.40
Main Canal, Extension B	138,354	10	13,835.40
Orestimba Branch Canal	11,000	7	770.00
	381,858		$37,855.80

Total for the three counties..... 5,367,768 cu. yds;

Cost $523,391.78

Adding 10 per cent. for engineering and superintendence:

Fresno County, estimated cost, total	$208,271.77
Merced " " " "	325,817.80
Stanislaus " " " "	41,641.38
Goodwin's total estimated cost	$575,730.95
Computing this 5,367,768 cubic yards at 8¢ would make the total cost	$429,421.44
to which add 10% for engineering and superintendence	42,942.14
Total valuation of excavation found by me	$472,363.58

NOTE.—The first item in the above table of "$8.50" should be "$850.00," and I have made the correction accordingly.

293 5. Page 37, after line 12, insert the following:

"I have made from Mr. Goodwin's report a computation of the value of all the structures and buildings given in his report. I find the same to be as follows:

Fresno County, Head Works		$84,732.23
All other structures	$95,159.66	
Adding 10 per cent. for engineering, etc.	9,515.97	
		104,675.63
Merced County	178,086.32	
Adding 10 per cent	17,808.63	
		195,894.95
Canal Station, Improvements (not including in Mr. Goodwin's sub-totals)		1,700.00
Canal Station, Horses (not included in Mr. Goodwin's sub-totals)		200.00
Canal Station, Carts and Wagons (do.)		562.00
Stanislaus County	$28,406.42	
Adding 10 per cent	2,840.64	
		31,247.06
Canal Station (also not included in Mr. Goodwin's sub-totals)		1,500.00
Canal Station: horse, cart and wagon ("Estimated Cost of Headworks," Stanislaus County, title page)		175.00
		$420,686.87

6. Page 50. In case the foregoing corrections should be made, corresponding corrections should be made on this page.

7. Page 56. In case the foregoing corrections should be made, corresponding corrections should be made on this page.

8. Page 80. The name of "Hammatt" in two places should be changed to "Merritt."

294 Pages 80 to 82. We would respectfully ask that your Honor reconsider the matter commencing with the last paragraph on page 80 and ending on page 82. Your Honor's report fairly states the testimony down to that point. After that your Honor, however, has overlooked that counsel for defendant then asked Mr. Merritt to examine his accounts and see what, if anything, in the nature of betterments was included in the maintenance account, and particularly the maintenance account of 1907-8. Mr. Merritt did so and was recalled for the purpose of testifying on that subject, and his testimony will be found on pages 699 to 707. This testimony has apparently been entirely overlooked by your Honor in considering this subject. From reading that it will be noted that the sum and substance of the testimony is that the company always kept a careful segregation between maintenance and betterments, and that there were only two cases where that segregation had not been maintained; first, in repairing certain delivery boxes so that they would also act as measuring boxes no segregation was made between the portion which was betterment and the portion which was maintenance. Secondly, during a certain short period dredger was used both for enlarging and cleaning the canals and no segregation was made of what part of the dredge operating during that period was betterment and what part maintenance. It was clearly shown, however, that neither of these items occurred in the year 1907-8. If the defendants desired to show that any item in Exhibit 16 was in the nature of a betterment, they could have easily done so, but this testimony clearly shows that there is nothing in the nature of a betterment in that account.

Your Honor throws a doubt on certain items which in view of this evidence we believe your Honor will see is entirely unfounded.

295 For instance, the expense of maintaining the automobile, maintaining horses and the household furniture in the various section houses, repairing the head works, Firebaugh weir and waste gates are all prima facie entirely proper as maintenance, and there is no evidence anywhere in the record throwing any doubt on these items at all. The testimony shows very clearly that unless these repairs were made not only would the life of the structures be very much shortened, but works could not be operated at all, and it must be remembered that after all of these amounts are paid for the purpose of keeping in repair all of these properties and so as to be most efficient, your Honor has found a depreciation in structures of thirty (30) per cent., amounting to Ninety-four thousand, six hundred fifty-four dollars and fifty-four cents, although the average life of the entire plant is not more than twenty (20) years. We believe that on further consideration of this matter your Honor will allow the full amount for depreciation as computed in the report.

If we are right in this, we would also ask your Honor to omit the paragraph on this subject on pages 135 and 136.

9. Page 148. At the bottom of this page there is an ambiguity in regard to the testimony of Mr. Rouse. The testimony to the effect that there was not much wasted in the Orestimba waste "be-

cause we never wasted water there unless it was to protect the canal" was given on this hearing and not in the former case brought out on cross-examination by counsel for complainant. The very purpose of calling the attention of the witness to his previous testimony was to entirely overcome the implication contained in this language, and his testimony in the previous case clearly shows that there was no unnecessary waste whatever.

296 10. Page 195. On the subject of the federal license tax, your Honor has fallen into the error of computing it upon the value of the property instead of upon the net income. The clause beginning with "The amount to be allowed" and ending with "maintenance account" should be omitted, and the following clause inserted:

"I have found the total income of plant to be.....	$136,697.35
and the total annual expense.....	67,114.85
leaving a net income of.....	69,582.51
deducting $5,000 not subject to the tax leaves.....	64,582.51

one per cent. of which is $645.82, the amount to be allowed and added to the maintenance account.

11. Page 198. In response to your Honor's suggestion we submit herewith a statement of the number of acres of land irrigated and paid for by Miller & Lux and other consumers in each county, also the number of acres in each county carried for Miller & Lux, as follows:—

Water paid for at Regular Rates.

	Miller & Lux.	Other Consumers.
Fresno	24,410 acres	1175.7 acres
Merced	20,411 "	21599.4 "
Stanislaus	20 "	11275.6 "
	44,841	34050.7

Water for Which a Carriage Charge Was Paid by Miller & Lux.

Fresno	9,713.35 acres
Merced	4,398.30 "
	14,111.65

(See Exhibit 27 and testimony, page 465.)

NOTE.—Exhibit 20 was prepared before the books for the irrigation season were closed and when the number of acres was

297 estimated.

12. Page 199. Change "Excise tax $488.10" to "Excise tax—$645.82."

Respectfully submitted,

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

Filed May 2, 1910. E. H. Heacock, Master, etc.

298 In the Circuit Court of the United States for the Northern District of California.

In Equity. No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA et al., Defendants.

Master's Conclusions Upon Complainant's "Suggested Corrections to Report" Filed May 2, 1910.

Counsel for complainant requested leave to present suggestions for corrections to my draft report, which request was granted, and certain suggested corrections were filed on May 2, 1910. I will take such suggestions up in order, as numbered by counsel.

1. Word "who," p. 1 of Report, last line; suggested should be changed to "which." Allowed.

2. Suggested that letter "e" in word including," p. 12, line 10, be changed to letter "c." Allowed.

3. Suggested that $84,315.56," top line, p. 28, be changed to "86,315.56" and corresponding changes made in other figures on same page. Allowed.

4 and 5. Counsel suggest that to my allowance of 8 cents a cubic yard for excavation should be added 10 per cent. for engineering, surveying and general superintendence. In Mr. Goodwin's report, the estimates of the cost per cubic yard of reproducing the different lines of canals, is given at so much per cubic yard, to which
299 he afterwards adds to the totals 10 per cent. for engineering and superintendence. As I have not added to my allowance of 8 cents such 10 per cent. counsel have derived the impression that it was an oversight on my part, and state that there is nothing in the report which would indicate a different idea in my mind. In my report I gave the average of Mr. Goodwin's estimate of all the earthwork as 10.725 cents per cubic yard. This average includes the 10 per cent. for engineering and superintendence, and I intended, in fixing 8 cents as the amount per cubic yard to be allowed for excavation, that such amount should cover the entire cost, including the engineering and superintendence, and that the reduction to be made, as stated in my report, was the difference betwen 10.725 cents and my estimate of 8 cents. It is possible that my report might be open to an inference that I had overlooked, in arriving at the allowance made by me of 8 cents, such 10 per cent. for engineering and superintendence. But with this explanation I do not deem it necessary to incorporate in the body of my report the explanation here made.

Counsel also suggest that the table in regard to the cost of structures found at p. 31 be transferred to the portion of the report dealing with valuation of structures. Counsel have misunderstood the

purpose for which this table was inserted at this point, such table appearing under my consideration of the quantity of earthwork, and I show in my report (pp. 29 and 30) that both complainant and defendants have made errors in regard to the total cost of the yardage of earthwork, and that such mistake arose from complainant's statement in their opening brief that Mr. Goodwin's estimate of structures and buildings is $386,384.65, and I show that such cost of structures and buildings should have been $420,686.87,
300 and it is for the purpose of showing this error that this table appears under the discussion of the cost of earthwork. At p. 30 I state that defendants have taken the total value of all the property shown by Mr. Goodwin's report, which they state is $992,179.63, and have deducted from this amount the said $386,384.65, the alleged cost of structures as given in complainant's brief. I have inserted this table of cost of structures at this point for the purpose of showing that said $386,384.65 should have been $420,686.87. This table was not necessary to the consideration of my estimate of the cost of structures, except as to the total, and while I would be pleased to make the transposition if it appeared desirable, I do not deem it necessary, as such table can readily be referred to.

The first item of the table at p. 32, $8.50, as pointed out by counsel, should be $850.00. This is a clerical error, and the total, $296,198.00 is obtained by taking $850.00 instead of $8.50.

6 and 7. These are suggested corrections which should be made if the foregoing correction as to yardage is allowed, and as such correction has not been allowed, the suggested corrections 6 and 7 should also be disallowed.

8. Suggested that the name "Hammett" be changed to "Merritt" in two instances on p. 80. Allowed.

At p. 5 of counsels' suggested corrections, they ask the master to reconsider the matter of the allowance of the amount of depreciation found, that is, it having been determined that the amount of such depreciation for the year 1907-'08, to wit, $9,561.06, should not be allowed, counsel request the reconsideration of this matter, and suggest that the master has overlooked certain testi-
301 mony of Mr. Merritt found at pp. 699-707 of the testimony, which is to the effect that "the company always kept a careful segregation between maintenance and betterments," and that there were only two cases where that segregation had not been maintained. This testimony was not overlooked by me, but I deemed that it did not relate to the matter of charging in the maintenance account items for making replacements. This sum of $9,561.06 to be allowed annually should constitute a fund out of which replacements should be paid. It is not contemplated that betterments should be paid out of this fund. This distinction between betterments and maintenance, as I have used the terms, is that a betterment is the acquisition of new property, or additions to property theretofore owned by the company, while a replacement is the restoration of property theretofore owned by the company. Betterments are to be charged to investment; replacements are to be paid

for out of a sinking fund or out of an allowance made for depreciation. The reason for my not allowing such sinking fund in this case, as fully explained in my report, is that complainant has been charging in its maintenance account its replacements. That Mr. Merritt used the term betterments in the same sense appears from his testimony (p. 700):

Q. 8. When you say betterments you mean probably digging out the canal in extension work or something of that sort?

A. I mean enlarging of the channel. Our instructions to our superintendents for many years have been to carefully discriminate in rendering their statements between maintenance work and betterment work, so that we might charge betterments to the plant and "maintenance" merely to operating expenses.

And as stated in my report, he further testified (p. 416, R. X Q. 21) that the "cost of repairs and replacements to prevent de-
302 terioration in the value of the company's property is of course charged in our annual maintenance account." The objection is not that complainant has not segregated its betterment account, but that it has charged its replacements in its maintenance account, and that if the sum of $9,561.06 is set aside and allowed for a sinking fund and also replacements charged in the maintenance account, it results in a double allowance for depreciation.

Counsel refer to certain items found at p. 81 of my report, among which are Firebaugh Weir, repairs to head-works, San Luis Outside Waste Gate, and state that there is no evidence anywhere in the record throwing any doubt on these items. This is true. The correctness of such items is not disputed, and I have allowed the same. But the point made by me is that such items do not represent ordinary repairs, but are for such repairs as amount to substantial replacements. Mr. Hammett, in fixing his period of thirty-three years as the life of the structures, testified that "by making repairs right along the life could be indefinitely prolonged." As stated in my report, it is a matter of great difficulty to determine between ordinary repairs and such repairs as amount to substantial replacements. To illustrate, complainant's maintenance accounts show the following amounts expended for repairs to headworks:

1903	$3,154.91
1904	2,691.91
1905	36.22
1906	764.59
1907	750.00
1908	1,574.86
	$8,972.49

303 The head works consist of:

San Joaquin River Weir, Goodwin's estimated cost	$54,046.50
Controlling weir at headgate, main canal	7,785.05
Head gate, main canal	4,853.86
Head gate, China Slough	3,814.82
Goodwin's estimated cost	**$70,500.23**

There are also other items in Mr. Goodwin's valuation of the headworks, consisting of house and barn, machinery, tools, dredgers and pile-drivers, but I take it the repairs charged do not refer to these items.

The San Joaquin River Weir is comparatively a new structure, being built, according to complainant's cost of its plant, in 1900-1901, 1903 (p. 34, Opening Brief). Deducting from the cost of reproduction $70,500.23, the cost of the San Joaquin River Weir, $54,046.50, leaves $16,453.73 as representing the cost of reproduction of the headworks other than the San Joaquin River Weir. Said weir would require, since the time of its construction, but little repairs, being a new structure. Mr. Hammett testified that the portion of the structure under water has a much longer length of life than the superstructure; "that he never seen a structure below water give out at any age, due to the rotting of the timber," from which I infer that these repairs were mainly made to the superstructures, and I conclude that a sum approximating $9,000.00 was mostly expended in repairing the superstructures of works which would cost to replace in their entirety approximately $17,000.00 to $20,000.00.

Such repairs amount to a substantial replacement of the superstructure, and complainant should not be allowed to charge the same to maintenance and also be allowed by way of sinking fund or an allowance for depreciation an amount to make such re-
304 placements. This illustration is of course only a rough estimate, but I make the same to show that substantial replacements are being charged in complainant's maintenance accounts.

As to the items (p. 135, report) expense, automobile, horses and feed, household furniture, and vehicles and harness, I inferred that a portion of such items might represent new property, but as there may be some doubt as to the correctness of such inference, I will omit from my report the reference to these items.

9. Counsel claim that there is ambiguity in the reference to the testimony of Mr. Rowse at p. 148 of my report, wherein I refer to certain testimony given by Mr. Rowse in a former case, in that I also refer to certain other testimony given in the case at bar, and that it might appear that I refer to such testimony given in the case at bar as being given in such former case. I will interline the words "Given in the case at bar" to distinguish such testimony from the testimony given in the former case.

Counsel also claim that I have mistaken the purport of the testimony of Mr. Rowse in the case at bar, and state that it was for the very purpose of overcoming the implication contained in the language of the witness in the former case that his attention was called to such testimony. I take it counsel is referring to the statement of the witness "that he had seen a great deal of it (water) turned in and run down to the swamps," and shows that the witness also testified that "I aimed to have as little waste as possible." The purpose for which I quoted this testimony was to show that other water than water necessarily wasted was delivered to Miller & Lux for its wild grass and swamp lands. The statement of the witness

that he had seen a great deal of it turned in and run down to
305 the swamps is not consistent with his statement that he aimed to have as little waste as possible, if the witness was the person who was turning in the water and running the same down to the swamps, and the testimony would indicate that this water was turned in and run down to the swamps by some one else; or it may be that this water that was turned in and run down to the swamps was so turned in outside of the irrigation season. I have shown in my report that the necessary waste waters would not be sufficient to irrigate the 20,000 acres of wild grass lands admitted to have been irrigated by Miller & Lux for which no charge is made, and it may be that the necessary waste waters during the irrigation season and the waters available outside of such irrigation season would be sufficient to irrigate such wild grass lands and swamp lands, and that the truth may be, as stated by the witness, that there was as little waste as possible. However this may be, I have found that these waters belonged to the canal company and were delivered to Miller & Lux, and that it is a discrimination to furnish the same to them without charge.

10. Counsel claim that the master has erred in computing the Federal license tax; that the same has been computed upon the value of the property instead of the net income. Counsel have mistaken my intention as to the basis of the amount to be allowed for the Federal license tax—that such amount should not be upon the entire income of complainant if such income exceeds the sum of 6 per cent. upon the value of complainant's property. In other words,
I have found that complainant is entitled to an income of at
306 least six per cent. on $896,829.55, which is $53,809.77, the amount of net income to which complainant is entitled, and that upon such income the license tax would amount to $488.10, and that in determining the reasonableness of the rates to produce such income of $53,809.77, only the amount of the income tax based on such income should be allowed.

11. At p. 198 of my report I stated that I had not made a statement of receipts by counties for the reason that I had not been able to ascertain the exact acreage irrigated in the respective counties, and counsel, at p. 7 of their suggested corrections, have set forth such acreage. I further stated that if counsel desired to present a statement showing all receipts by counties I would incorporate the same in my report. From the acreage as stated by counsel I find that the receipts from irrigation should be as follows:

Fresno County	35,299.05	acres at	$7.80.....	$28,239.24
Merced County,	46,408.7	" "	1.65.....	76,574.355
Stanislaus County,	11,295.6	" "	1.50.....	16,943.40
Total				$121,756.995

This does not show the total receipts in each county, as water was furnished for other purposes than irrigation. Counsel have not furnished such further receipts in detail by counties.

E. H. HEACOCK, *Master.*

Dated, May 4, 1910.

307 Office of Master in Chancery.

United States Post Office and Court House Building, San Francisco, Cal.

I hereby certify, that having prepared my draft report herein on the 16th day of April, 1910, I notified the solicitors of the respective parties that the same was ready to be signed and filed, and that they could inspect the same at my office and obtain a copy thereof, if desired, and suggest changes and file objections thereto, and that if no changes were suggested or objections filed before the 3rd day of May, 1910, I should sign and file the same, which notice is filed herewith.

That on the 2nd day of May, 1910, the complainant filed "suggested corrections" to my report, when I informed the parties that I would announce my decision upon such "suggested corrections" on the 5th day of May ensuing, at 10 A. M., which "suggested corrections" and my decision thereon are attached to my report.

On said 5th day of May, having rendered my decision upon said "suggested corrections", at the request of the solicitors of the respective parties I fixed the 11th day of May, 1910, at 10 A. M. as the time within which objections and exceptions might be filed to my draft report.

Now on this 11th day of May, 1910, at 10 A. M. the solicitors of the respective parties appeared before me, and filed their objections and exceptions to my report, which are filed herewith, and having duly considered the same I overruled each and every objection so made and exception so taken, and the complainant and defendants then and there duly excepted to my decision upon
308 each and every objection and exception taken by them respectively; and thereupon I finally settled the draft of my report and signed it.

I further certify, that in the matter of the master's fee herein and of the expense of typewriting the original of my report, the solicitors of the respective parties stipulated that the amount of the master's fee for all services herein should be the sum of Two thousand ($2000.00) Dollars, which with the expense of typewriting aforesaid, amounting to $75.30, makes a total of $2075.30; such fee and expense to be paid in the first instance one-half by the complainant and one-half by the defendants, and the same thereafter to be taxed as costs and charged upon and borne by such of the parties as the Court shall determine.

Dated May 11, 1910.

E. H. HEACOCK,
Master in Chancery.

(Endorsed): Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

309 In the Circuit Court of the United States in and for the Northen District of California. In Equity.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL & IRRIGATION COMPANY (INCORPORATED), (a Corporation), Complainant,

vs.

THE COUNTY OF STANISLAUS IN THE STATE OF CALIFORNIA et al., Defendants.

Complainant's Objections and Exceptions to Master's Report.

Now comes the complainant in the above entitled suit, and makes and files the following objections and exceptions to the draft report of the referee in the above entitled suit, and excepts and objects to the portions of said report hereinafter referred to, and on the grounds hereinafter set forth, to-wit:

1. It objects and excepts to the finding that the cost of reproduction of the earthwork excavation in the canals of the complainant is the sum of Four hundred and twenty-nine thousand four hundred and ninety-five dollars and twenty-eight cents ($429,495.28), on the ground that said finding is unsupported by the evidence, and the evidence shows that the cost of reproducing the same is the sum of Five hundred and seventy-five thousand, seven hundred and thirty dollars and ninety-five cents ($575,730.95).

2. It objects and excepts to the finding that the present value of the earthwork excavation in the said canals is the sum of Four hundred and twenty-nine thousand four hundred and ninety-five dollars and twenty-eight cents ($429,495.28), for the reason that said finding is unsupported by the evidence, and the evidence
310 shows that the present value of the said earthwork excavation is the sum of Seven hundred and five thousand and ninety-five dollars and ninety-five cents ($705,095.95), and also on the ground that the court erred in not finding that the said earthwork excavation had appreciated in value in the sum of One hundred and twenty-nine thousand three hundred and sixty-five Dollars ($129,365.00).

3. It objects and excepts to the finding that the evidence is insufficient to show that the value of the said earthwork excavation has appreciated in the sum of One hundred and twenty-nine thousand three hundred and sixty-five dollars ($129,365.00), for the reason that the said appreciation is shown by uncontradicted evidence and admitted by the witnesses of defendants.

4. It excepts and objects to the finding that the cost of reproduction of the structures on the canals of complainant is the sum of Three hundred and fifteen thousand five hundred and fifteen dollars and fourteen cents ($315,515.14) on the ground that the same is unsupported by the evidence, and the evidence shows that the cost of reproduction of said structures is the sum of Four hundred

and twenty thousand six hundred and eighty-six dollars and eighty-six cents ($420,686.86).

5. It objects and excepts to the finding that the amount of interest lost by complainant on its money invested during construction is the sum of Sixty-five thousand five hundred and fifty-three dollars and three cents ($65,553.03), for the reason that the same is not supported by the evidence, and the evidence shows that the interest so lost is the sum of Eighty-three thousand and seventy-nine dollars and sixty-four cents ($83,079.64).

6. It excepts and objects to the portion of said report which finds that complainant's properties are not enhanced in value to
311 the extent of Forty-two thousand four hundred and seventy-one dollars ($42,471.00), the value of the fences along the right of way of said company, for the reason that said finding is not supported by the evidence, and the evidence shows that the said properties of complainant are enhanced in value in the said sum, by reason of the existence of said fences, and by reason of the said complainant owning said right of way freed of any liability or duty to erect fences along the same.

7. It objects and excepts to that part of said report which holds that complainant is not entitled to a reasonable return upon the value of the water right owned by complainant, and found by the Master to be of the value of approximately One million dollars ($1,000,000.00) for the following reasons:

(*a*) Because the evidence shows that the said water right is of the value of more than Seven hundred and sixty thousand dollars ($760,000.00), to-wit: One million dollars ($1,000,000.00).

(*b*) Because the evidence shows that the complainant is the owner of said water right of the value aforesaid, and is entitled to a return thereon.

(*c*) Because the court erred in holding that because complainant had devoted the said water right to the public use, it is not entitled to any return thereon.

8. It objects and excepts to that portion of the said report which finds that complainant is entitled to a sinking fund to meet the depreciation in the structures in said canals only in the sum of Nine thousand five hundred and sixty-one dollars and six cents per annum, for the reason that the same is unsupported by the evidence, and the evidence shows that the complainant is entitled to the sum of Eleven thousand seven hundred and twenty-two dollars and sixty cents ($11,722.60) per annum as a sinking fund to meet such depreciation.

312 9. It objects and excepts to that part of said report which does not allow the said complainant the said sum to meet such depreciation, for the following reasons:

(*a*) The court erred in holding that there were any items in the maintenance account of complainant for the year 1907-8, which should have been paid out of the sinking fund allowed for said depreciation, for the reason that the evidence shows that only ordinary repairs, and not replacements or betterments, are contained in the said maintenance account.

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(*b*) For the reason that notwithstanding the repairs which are made upon the said property from year to year, the Master has found that the same has depreciated in the sum of Ninety-four thousand six hundred and fifty-four dollars and fifty-four cents ($94,654.54), and no fund is allowed by said report to meet said depreciation.

10. Said complainant objects and excepts to that part of said report which finds that there is no testimony by which it can be ascertained what charges or portions of charges in the maintenance account of 1907-8 should be charged to replacement, for the reason that said finding is not supported by the evidence, and the evidence shows that no items in said account should be charged to replacement.

11. It objects and excepts to that part of said report which finds that Miller & Lux never granted the said complainant any water right for the reason that the same is not supported by the evidence, and for the reason that the evidence shows that the said water right was acquired with the expressed consent of Miller & Lux, a large riparian owner on said river, and that the same could not have been acquired without such consent, and that in consideration of the said consent, the said complainant and its predecessors
313 granted to said Miller & Lux certain valuable rights.

12. It objects and excepts to the finding that the predecessors in interest of complainant did not pay John Bensley the sum of One hundred and twelve thousand five hundred dollars ($112,500.00) for water rights and rights of way which he had acquired, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the said complainant did pay the said John Bensley One hundred and twelve thousand five hundred dollars ($112,500.00) for such rights.

13. It objects and excepts to the finding that the said complainant did not pay to the said Miller & Lux a sum equivalent to One hundred and seventy-four thousand nine hundred and twenty-nine dollars and sixty-seven cents ($174,929.67) by way of reduced rates for water in consideration of the right of way and water right granted by that company to the predecessors in interest of complainant, for the reason that the evidence is insufficient to justify such finding, and the evidence shows that the complainant and its predecessors have paid to the said Miller & Lux a sum equivalent to One hundred and seventy-four thousand nine hundred and twenty-nine dollars and sixty-seven cents ($174,929.67) in consideration of the rights so granted.

14. It objects and *accepts* to the finding that the complainant and its predecessors have not paid to the said Miller & Lux a sum equivalent to Ten thousand dollars ($10,000.00) a year, being the value found by the Master of the waste water delivered to the said Miller & Lux under the terms of the contracts between the said Miller & Lux and the predecessors in interest of complainant, which sum if capitalized at six per cent, would amount to the sum of One hundred and sixty-six thousand six hundred and sixty-six
314 dollars ($166,666.00), for the reason that the evidence is insufficient to support the said finding, and the evidence

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shows that complainant and its predecessors have paid to the said Miller & Lux the sum aforesaid.

15. It objects and excepts to the finding that the complainant and its predecessors in interest have not paid the sum of Four hundred and fifty-three thousand and ninety-five dollars and sixty cents ($453,095.60) for a part of the water rights and rights of way obtained and owned by complainant, for the reason that the evidence is insufficient to justify such finding, and the evidence shows that the complainant has paid the sum aforesaid.

16. Complainant further excepts to the portion of said report which refuses to allow complainant any return upon the value of its water right for the reason that the said report has charged complainant with all of the sums paid by it in consideration of the said water right, and has allowed said complainant nothing for the water right acquired in exchange therefor.

17. It objects and excepts to the part of said report which finds that it does not appear in the testimony what rights to water Miller & Lux owned at the time of commencement of this enterprise, for the reason that the evidence shows that they were riparian owners upon the river, and as such riparian owners, entitled to the unobstructed flow of all the waters of said river.

18. It excepts and objects to that part of said report which finds that the complainant's predecessor acquired its water rights by appropriation, for the reason that the evidence shows that the said right could be acquired only by prescription or by grant from said riparian owners.

315 19. It objects and excepts to the finding that complainant is entitled only to the sum of Four hundred and eighty-eight dollars and ten cents ($488.10) for the federal excise tax, for the reason that the evidence shows that the amount of said tax would be the sum of Six hundred and forty-five dollars and eighty-two cents ($645.82).

20. It excepts and objects to the finding that the complainant should have received from Miller & Lux the sum of Fourteen thousand five hundred and thirteen dollars and fifty-three cents ($14,513.53) for the carriage of certain water for Miller & Lux, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the complainant did not own said water, and that the reasonable carriage charge therefor was the sum of One thousand one hundred and sixty-three dollars and ninety-seven cents ($1,163.97).

21. It objects and excepts to that part of said report which finds that the said complainant should have received and should be charged with the sum of Ten thousand dollars ($10,000.00) per annum, being the value of the waste waters delivered to Miller & Lux, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the complainant never did receive and was never entitled to receive the said sum.

22. It objects and excepts to that part of said report which finds that Miller & Lux were not entitled, under the terms of its contracts with complainant, to the said waste water, for the reason that said

finding is not supported by the evidence, and the evidence shows that the said Miller & Lux is entitled thereto.

23. It excepts and objects to that part of said report which finds that the purchasing of water by Miller & Lux for the irrigation of uncultivated land was inconsistent with its claim to the
316 waters wasted by complainant, for the reason that the evidence is insufficient to justify the said finding.

24. It excepts and objects to the finding that the said complainant could have diverted three hundred and fifty (350) cubic feet of water into its outside canal without the consent of Miller & Lux, for the reason that the evidence is insufficient to support said finding, and the evidence shows that the said complainant could not divert any water from said river without the consent of Miller & Lux.

25. It excepts and objects to the finding that Miller & Lux by purchasing said water for the irrigation of uncultivated lands, waived or abandoned any claim it had to the waste waters from said canal.

26. It excepts and objects to the finding that more water was wasted from said canal than was necessary, and the finding that water was turned into the swamps other than water necessarily wasted, for the reason that the evidence is not sufficient to support said finding, and the evidence shows that there was no more waste than necessary.

27. It objects and excepts to the finding that complainant could have irrigated the fourteen thousand one hundred and eleven and sixty-five one hundredths (14,111.65) acres of land irrigated with the water carried for Miller & Lux with the seven hundred and sixty (760) feet of water owned by complainant, for the reason that the evidence is insufficient to justify said finding.

28. It excepts and objects to that part of said report which finds that complainant will receive 7.704 per cent. income on the present value of its properties, for the reason that the said finding is not supported by the evidence, and the evidence shows that com-
317 plainant will not receive even two (2) per cent. on the value of its properties.

29. It excepts and objects to the finding that the net income, which will be received by the complainant under said rates will be a just and reasonable compensation to the complainant for the furnishing of said water, for the reason that the evidence shows that the complainant will receive no just nor reasonable compensation from the said rates.

30. It excepts and objects to the finding of the court to the effect that there is no evidence sufficient to determine the value of the franchise of complainant on the ground that the same is unsupported by the evidence, and the evidence shows that complainant's franchise is of the value of at least Seven hundred and sixty thousand dollars ($760,000.00).

31. It excepts and objects to the finding that the total value of complainant's property is the sum of Eight hundred and ninety-six thousand eight hundred and twenty-nine dollars and fifty-five

cents ($896,829.55), on the ground that the evidence is insufficient to justify said finding, and the evidence shows that the value of complainant's property exceeds the sum of Two million dollars ($2,000,000.00).

32. It excepts and objects to that part of said report which finds that the total receipts of the said complainant under the rates fixed by said ordinance is the sum of One hundred and thirty-six thousand, six hundred and ninety-seven dollars and thirty-five cents ($136,697.35), for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the total receipts of complainant amount to the sum of One hundred and thirteen thousand three hundred and forty-seven dollars and seventy-nine cents ($113,347.79).

318 33. It excepts and objects to the finding that the total expense of maintenance of said complainant is the sum of Sixty-seven thousand one hundred and fourteen dollars and eighty-four cents ($67,114.84), for the reason that the same is unsupported by the evidence, and the evidence shows that the said expense of maintenance of complainant is the sum of Ninety-four thousand three hundred and twenty-three dollars and thirty-eight cents ($94,323.38) per annum.

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

Received a copy of the within this 11th day of May 1910.
J. P. LANGHORNE,
Solicitors for Defendants.

Endorsed: Filed May 11th, 1910. E. H. Heacock, Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schzertzer, Deputy Clerk.

319 In the Circuit Court of the United States for the Northern District of California.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY (INCORPORATED), Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Defendants' Objections and Exceptions to Cetain Findings of Fact and Conclusions of Law as Found, and Decided by Hon. E. H. Heacock in his Report as Referee Herein.

Defendants in this suit object and except to certain of the Findings of Facts and Conclusions of Law, found and decided by Hon. E. H. Heacock in his Report as Referee herein.

The Findings of Facts and Conclusions of Law hereby objected and excepted to, are objected and excepted to on the ground that, each of them, is not sustained or justified by the evidence, or by law; and the Findings of Facts and Conclusions of Law hereby objected and excepted to are as follows:

1. That the amount of Earthwork required to reproduce complainant's Canals is 5,367,768 cu. yds. On the contrary, said finding should, under the evidence, find said earthwork not to exceed 4,482,983 cu. yds.

2. That the cost of reproducing the earthwork of Complainant's Canals is 8 cents per cu. yds. On the contrary, said finding should, under the evidence, find said cost not to exceed 5.5 cents per cu. yds.

320 3. That the value of the excavation of Complainant's Canals is $429,495.28. On the contrary, said finding should, under the evidence, find said value not to exceed $264,510.37.

4. That the value of the structures of Complainant's Canals is $220,860.60. On the contrary, said finding should, under the evidence, find said value not to exceed $200,000.

5. That the value of the Complainant's right of way in Fresno County is $13,414.00 and in Merced County is $101,955.00 and in Stanislaus County is $28,750.00. On the Contrary, under the evidence, said values do not exceed

In Fresno County	$6,854.80
In Merced County	$15,021.50
In Stanislaus County	4,305.00

Defendants except to any valuation in this suit of Complainant's alleged rights of way, except for right of way through N. E. ¼ Sec. 29 in 10-10 Merced County for which Complainant paid $454.25.

6. That the value of Complainant's land at Quinto Section House 154 acres is $7700. On the contrary, the finding under the evidence, should be that said land is not shown to be used or useful in the supplying waters by complainant for any purpose. And that said land should not be valued in this suit.

7. That the total value of the rights of way and of other lands of Complainant is $153,987.80. On the contrary, under the evidence, the finding should be, that the value of the said rights of way does not exceed $454.25

And that the value of other lands of Complainant does not exceed $2168.80

Total $2623.05

8. That Complainant should be allowed as part of cost of reproducing Canals the sum of $63,555.03 as interest on in-
21 vestment during construction. On the contrary, said finding should, under the evidence, find said allowance not to exceed $34,386.25.

9. That Complainant should be allowed as part of valuation of its plant as money to be kept on hand for expenses accruing before next annual revenues are due the sum of $20,000.00. On the contrary, the finding, under the evidence, should be that the allowance so claimed forms no part of the valuation of the plant within the issues in this Suit; and further that there is no evidence that $20,000.00, or any sum of money has been so needed or used.

10. That the total cost of the reproduction of Complainant's plant is $971,484.09. On the contrary, the finding, under the evidence, should be that such total cost did not exceed $525,618.40.

11. That the depreciation of complainant's plant is $94,654.54. On the contrary, under the evidence, the finding should be that such depreciation was not less than $291,445.20.

12. That the present value of complainant's plant is $876,829.55. On the contrary, the finding, under the evidence should be that such value is not greater than $525,618.40.

13. That the part of the expenses of each of the following Suits and agreements charged by Miller & Lux against Complainant was a proper charge against complainant in arriving at its annual maintenance account viz:

In California Pastoral & Agricultural Co. vs. James Canal;
Same vs. Borland;
Turner Estate vs. Borland;
Turner Estate vs. Enterprise C. & L. Co. and James;
Miller & Lux vs. Stevinson.
Turner Estate vs. East Side C. & I. Co.
322 Eastwood Agreements (Exhibits 19-22).

On the contrary, the finding, under the evidence, should be that no part of the expenses of any of said suits, or of said agreements, should have been, or be charged against Complainant.

14. That the charge against Complainant of the entire $9000. (and no part against Miller & Lux) in matter of settlement of litigation between Miller & Lux and complainant and Agnes Borland and Borland Land Company, was a proper charge. On the contrary, the finding, under the evidence, should have been that Miller & Lux should have been charged with one-half of said $9000.00.

15. That Miller & Lux although using are not chargeable with one-half, or any part, of annual maintenance of Complainant's telephone line, on ground that such use by Miller & Lux is offset by their services to Complaint-. On the contrary, the finding should be, under the evidence, that Miller & Lux rendered, and render no equivalent, or any; service to Complainant for use of said Telephone line, and that Miller & Lux are chargeable in Complainant's favor with one-half the annual maintenance of said Telephone line.

16. That Miller & Lux are not chargeable in Complainant's favor with one-half, or with any part, of the annual expense of cleaning Complainant's Canal by reason of the damage done to said Canal by cattle of Miller & Lux. On the contrary; the finding, under the evidence, should be that Miller & Lux are chargeable in Complain-

ant's favor with one-half annual cost of cleaning said Canal, because of the damage thereto by the cattle of Miller & Lux.

17. That the average annual expense to Complainant for
323 Canal cleaning is..... $6,074.23
And for legal expenses is..... $11,721.31
And that labor is allowed at..... $11,034.05
And that Dredge operation is allowed at..... $1,309.35
And that Telephone maintenance is allowed at..... $282.17
All with reference to Complainant's alleged maintenance account for year 1907-'8 found to aggregate..... $67,114.84

Whereas, said finding, under the evidence, should find said items not to exceed the following:

Canal cleaning	$3,420.35
Legal expenses	$6,470.00
Labor	$8,007.75
Dredge Operation	0,000.00
Telephone Line	$141.08

And should further find that the aggregate annual maintenance expense of Complainant does not exceed $49,075.66.

18. That Complainant should not be charged with, as part of its annual water revenue, the sum of $9,958.40, or any amount, as interest or otherwise, on the balance of $142,263.00 unpaid by Miller & Lux to Complainant on account of the irrigation of Miller & Lux cultivated lands by waters of Complainant. On the contrary, under the evidence, the finding should be that said annual interest of $9,958.40 should have been so charged against Miller & Lux.

19. That Complainant's profit and loss account for 1907 and 1908 did contain in favor of Complainant as part of its water revenue for that year the charge of $1200, against Miller & Lux for water for the town of Los Banos, and that the said $1200, is included
324 in the item "$108,324.16 for sale of water" by complainant and set forth in the Referee's tabulated findings as to "Receipts" from sale of water at page 197 of his Report. On the contrary, under the evidence, said $1200, has not been included in any finding of water receipts by said Referee, or in any profit and loss, or other account, by Complainant.

20. That no water was sold by Complainant to Columbia Canal, or to Miller & Lux for the Columbia Canal, in the years 1907 and 1908, and that Complainant should not be charged with having received for the irrigation year commencing July 1st, 1907, $3000, from Miller & Lux for water furnished for said Columbia Canal. On the contrary, the finding, under the evidence, should be that, Complainant furnished Miller & Lux water for the Columbia Canal for the irrigation year commencing July 1st, 1907, that Miller & Lux paid Complainant $3000, therefor and that Complainant is chargeable therefor as part of its revenue from sales of water for said irrigation year.

21. That Complainant is entitled to have included in its annual maintenance account the Federal Excise Tax on Corporations. On

the contrary, such allowance of the said Excise Tax is unsupported by the evidence in this case, or by the law applicable thereto.

22. That Counsel for defendants have not objected to Complainant's alleged computation of the value of the property used and useful in supplying water to the respective Counties, or as to the portion of Complainant's expenses to be borne by the respective Counties. On the contrary, defendants at pages 6, 7, 8, 9, and 78 of their brief before the Referee expressly claimed that, complainant upon whom rested the burden of proof, had failed to introduce evidence to establish any of said matters, and that defendants denied
325 that Complainant's alleged computations (made by its solicitors) as to said matters were correct. Said alleged computations are not evidence, but merely by way of argument.

23. That the total annual receipts of Complainant for water is $136,697.37. On the contrary, such finding, under the evidence, should include the items of receipts disallowed by the Referee as hereinbefore appears from Exceptions 18, 19, 20, aggregating $14,158.40, and so that said finding of total receipts should have been $150,855.77.

24. That the concurrent operation of the annual rates fixed by the respective Boards of Supervisors of the three Counties of Fresno, Merced and Stanislaus, to go into effect on the 1st day of July, 1907, would produce a net income upon all the property of complainant used and useful in the appropriation and furnishing of water to the inhabitants of said Counties in the year commencing July 1st, 1907, of only 7.704 per cent. On the contrary, such finding, under the evidence, should be that the concurrent operation of said rates would produce upon said properties in said year a net income of at least 19 per cent.

L. J. MADDUX,
Per J. P. L.,
J. P. LANGHORNE,
Solicitors for Defendants County of Stanislaus and Its Supervisors.

DENVER S. CHURCH,
Per J. P. L.,
M. F. McCORMICK,
Per J. P. L.,
Solicitors for the County of Fresno and Its Supervisors.

H. S. SHAFFER,
Per J. P. L.,
M. F. McCORMICK,
Per J. P. L.,
Solicitors for the County of Merced and Its Supervisors.

Due service and receipt of a copy of the within Objections & Exceptions is hereby admitted this 11th day of May, 1911.

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Sol'rs for Complainant.

326 Endorsed: Filed May 11th, 1910. E. H. Heacock, Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

327 At a stated term, to wit, the July term, A. D. 1911, of the Circuit Court of the United States of America, of the Ninth Judicial Circuit, in and for the Northern District of California, held at the Court Room, in the City and County of San Francisco, on Monday, the 18th day of September, in the year of our Lord one thousand nine hundred and eleven.

Present: The Honorable William W. Morrow, Circuit Judge.

No. 14554.

SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY
vs.
THE COUNTY OF STANISLAUS et al.

Order Confirming Master's Report.

Complainant's exceptions to the Master's Report and defendants' exceptions to the Master's Report heretofore heard and submitted being now fully considered and the Court having rendered its opinion in writing it was ordered in accordance therewith that the injunction pendente lite heretofore issued be dissolved and the bill of complaint dismissed and that a decree be signed, filed and entered accordingly.

328 In the Circuit Court of the United States, Ninth Circuit, Northern District of California.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL AND IRRIGATION CO., INCORPORATED, a Corporation, Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Enrollment.

The Complainant filed its bill of complaint herein on the 19th day of September, 1907, which is hereto annexed.

An original and duplicate original subpœna to appear and answer in said cause were thereupon issued, returnable on the 4th day of November, A. D. 1907, which are hereto annexed.

The Defendants appeared herein on the 4th day of November, 1907, by J. P. Langhorne, Denver S. Church, M. F. McCormick and Maddux & Maddux, Esqs., their Solicitors.

On the 4th day of November, 1907, the Demurrer of County of

Stanislaus, et al. and the demurrer of the County of Merced et al. were filed herein, which are hereto annexed.

On the 2nd day of December, 1907, the Answer of Fresno County was filed herein, which is hereto annexed.

On the 20th day of January, 1908, a Replication to Answer of the County of Fresno et al., was filed herein, which is hereto annexed.

On the 15th day of April, 1908, the Answer of the County of Stanislaus, et al. was filed herein, which is hereto annexed.

On the 8th day of June, 1908, the Answer of Merced Co. et al., was filed herein, which is hereto annexed.

329 On the 19th day of June, 1908, a Replication to Answer of County of Merced et al., was filed herein, which is hereto annexed.

On the 25th day of June, 1908, a Replication to Answer of County of Stanislaus et al., and a Replication to Answer of County of Fresno, et al., were filed herein, which are hereto annexed.

On the 19th day of August, 1908, a Stipulation and an Order of reference to the Standing Master were filed herein, which are hereto annexed.

On the 14th day of May, 1910, the Master's Report was filed herein, which is hereto annexed.

On the 14th day of May, 1910, complainant's Exceptions to Master's Report and defendant's Exceptions to Master's Report were filed herein, which are hereto annexed.

On the 18th day of September, 1911, an Order dismissing Bill of Complaint and for entry of Decree of dismissal was made and entered herein, a copy of which order is hereto annexed.

Thereafter a Decree was signed, filed and entered herein, in the words and figures as follows, to-wit:

330 In the United States Circuit Court, Ninth Circuit, Northern District of California.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED (a Corporation), Complainant,

vs.

THE COUNTY OF STANISLAUS, in the State of California; THE BOARD of Supervisors of said County of Stanislaus; Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting said Board of Supervisors of said County of Stanislaus; the County of Merced, in the State of California; the Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting said Board of Supervisors of said County of Merced; and the County of Fresno, in the State of California, the Board of Supervisors of said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the Members of and Constituting said Board of Supervisors of said County of Fresno, Defendants.

At a stated Term, to-wit the July Term of the above entitled Court, held at the Court-room thereof in the City and County of San Francisco, State of California, on the 18th day of September A. D. 1911.

Present, The Honorable W. W. Morrow, Circuit Judge—Presiding.

Decree.

331 This cause having heretofore been, by consent of the parties, referred by the Court to the standing Master of the Court to hear the evidence and the whole case and to make and report to the Court findings of fact and conclusions of law, and said Master having taken and heard the evidence documentary and oral produced by the respective parties and the arguments of Counsel, and having thereupon made and filed in this Court his report of his findings of facts and of his conclusions of law upon the whole case, and Complainant having filed exceptions to said report and the said exceptions having been argued by Counsel for the respective parties and heard by the Court and said exceptions and the whole case having been submitted to the Court for its consideration and decision, and the Court having duly considered the same and being fully advised in the premises, Now Therefore, it is hereby ordered, Adjudged and Decreed that, the Complainant's said exceptions to the Master's report be and the same are hereby over-ruled, and that the Master's said report be and the same is hereby confirmed; in accordance with the opinion filed herewith and it is hereby further ordered, adjudged and decreed that, the Complainant's bill

of Complaint herein be and the same is hereby dismissed, and that defendants herein have and recover from Complainant the defendants' costs and disbursements taxed at the sum of $1757.41.

WM. W. MORROW,
Circuit Judge.

Endorsed: Filed and entered September 18, 1911. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

332 In the United States Circuit Court, Ninth Circuit, Northern District of California.

No. 14554.

In Equity.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED (a Corporation), Complainant.
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Defendants' Memorandum of Costs and Disbursements.

Master's Fees.

Paid E. H. Heacock ½ his fees ($2,000.00) as Master and Referee		$1,000.00
Paid same ½ cost of typewriting his Report to Court		37.65

Reporter's Fees.

Paid B. C. Brown, Reporter on hearing before Master viz:		
Taking defendants' testimony for 7 days at $10.00	$70.00	
Transcript 1532 folios of defendants' testimony and Exhibits for Master at 20 cts	306.40	
½ cost binding Testimony and Exhibits for Master	3.00	
Paid J. L. Holland Reporter for transcript Defendants' oral argument before Master upon Master's order for his use	62.00	
Paid C. Bennett ½ Reporting oral arguments in Circuit Court on final hearing	5.00	
		$446.40

333 Witness Fees & Mileage.

H. H. Henderson, residence Berkeley, Cal. 7 days' attendance at $3.00	21.00	
Mileage 4 miles each attendance, 28 miles at 10 cts	2.80	

J. Q. Drummond, residence Ingomar,, Cal., 1 day attendance	3.00	
Mileage 120 miles at 10 cts.	12.00	
D. M. Rouse, residence Los Banos, Cal., 1 day attendance	3.00	
Mileage 130 miles at 10 cts.	13.00	
Chas. E. Sloan, residence Mill Valley, Cal., 2 days' attendance	6.00	
Mileage 4 miles each attendance, 8 miles at 10 cts.	.80	
A. B. Southard, residence San Francisco, Cal., 1 day attendance	3.00	
C. H. Dasher, Residence, San Francisco, Cal., 1 day attendance	3.00	
		$67.60
Attorneys' fee, attendance taking deposits of defendants' nine witnesses viz: H. H. Henderson, J. Q. Drummond, D. M. Rouse, Joseph Pfitzer, Eugene McCabe, Chas. E. Sloan, E. S. Wangenheim, A. B. Southard and C. H. Dasher, before Master at $2.50		$22.50
Paid Barry & Co. for printing defendants' brief before Master		95.00
Paid to Perneau Pub. Co. for printing defendants' brief on final hearing in Court		43.00

334 *Notary Fees.*

Verifications to three answers, filed at 50 cts.	$1.50	
Affidavits of C. S. Abbott, J. F. Campbell, A. E. Clary, J. P. Cummings, S. B. Mitchell, (2) C. E. Sloan, B. Smith, and G. H. Whitworth filed on behalf of defendants on Complainant's Motion for Injunction, at 50 cts.	4.50	
Affidavit to Cost Bill	.25	
		$6.25
Docket fee		20.00
Total		$1,738.41
Clerk's fees to be added by clerk of Court		19.00
		$1,757.41

Costs taxed at $1757.41.

SOUTHARD HOFFMAN, *Clerk.*

335 UNITED STATES OF AMERICA
Northern District of California,
City and County of San Francisco, ss:

J. P. Langhorne, being duly sworn deposes and says: That he is one of the Counsel for defendants in the above entitled suit, and as such has knowledge of the facts relative to the above costs and dis-

bursements. That the items in the above memorandum contained are correct; that the said disbursements have been necessarily incurred in the said suit, and that the services charged therein have been actually and necessarily performed as therein stated.

J. P. LANGHORNE.

Subscribed and sworn to before me, this 19th day of September, A. D. 1911.

[SEAL.] W. H. PYBURN,
Notary Public in and for the City and County of San Francisco, State of California.

Notice of Application to Tax Costs.

To Messrs. E. F. Treadwell, Frank H. Short and Garret W. McEnerney, solicitors for complainant:

You will please take notice that on Friday the 22nd day of September, A. D. 1911, at the hour of 10 o'clock A. M. defendants will apply to the Clerk of said Court to have the within memorandum of costs and disbursements taxed pursuant to the rule of said Court, in such case made and provided.

J. P. LANGHORNE,
L. J. MADDUX,
DENVER S. CHURCH,
M. F. McCORMICK,
H. S. SHAFFER,
Solicitors for Defendants.

336 Due service and receipt of copies of the within cost bill and of time of application to tax same is hereby admitted this 19th day of September 1911.

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

It is hereby stipulated that the taxing of the within cost bill may be continued from Sept. 22nd 1911 until 10 o'clock A. M. September 25th 1911.

J. P. LANGHORNE,
Sol. for Def'ts.
GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

Endorsed: Filed Sep. 19, 1911. Southard Hoffman, Clerk, by J. A. Scharertzer, Deputy Clerk.

337 *Certificate to Enrollment.*

Whereupon, said pleadings, subpœna, copies of orders, Master's Report, final decree, and a memorandum of taxed costs, are hereto annexed; said final decree being duly signed, filed and enrolled, pursuant to the practice of said Circuit Court.

Attest my hand and the seal of said Circuit Court, this 18th day of September, 1911.

[SEAL] SOUTHARD HOFFMAN, *Clerk*,
By J. A. SCHAERTZER, *Deputy Clerk*.

(Endorsed:) Enrolled papers. Filed September 18th, 1911. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

338 In the Circuit Court of the United States for the Ninth Circuit, Northern District of California.

No. 14,554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Opinion Granting Injunction Pendente Lite.

In Equity.

Suit to enjoin the enforcement of water rates established by the boards of supervisors of the counties of Stanislaus, Merced and Fresno to be charged by complainant for water distributed by it through its system of canals to said counties.

Frank H. Short, Garret W. McEnerney, W. B. Treadwell, Edward F. Treadwell, for Complainant.
L. J. Maddux, for the County of Stanislaus.
M. F. McCormick, for the Counties of Fresno and Merced.

MORROW, *Circuit Judge:*

In 1896 The San Joaquin and Kings River Canal and Irrigation Company, a California corporation, and the predecessor in interest of the complainant, a Nevada corporation, brought suit in this Court to enjoin the enforcement of an order of the board of super-
339 visors of Stanislaus County, fixing the rates to be charged by the complainant for water distributed by it in said county. The complainant in its bill referred to the laws of the State of California under which it was organized, and set up certain facts concerning the value of the property embraced in its canal system, and averred that the rates so fixed by the board of supervisors were grossly

unfair and unreasonable and as applied to the complainant's business would deprive it of its property without due process of law, and would deny to it the equal protection of the laws. Upon a final hearing had in 1902 a decree was entered in favor of the complainant (San Joaquin & Kings River C. & I. Co. v. Stanislaus County, 113 Fed. 930.) The defendant took an appeal from this decree direct to the Supreme Court of the United States, upon the constitutional question involved. In that court the provisions of the laws of the state under which the complainant was organized and was continuing to do business, were discussed and the rights of the complainant under such acts considered and as far as necessary determined. The fact was also referred to that complainant's canal extended through the counties of Fresno and Merced as well as into the county of Stanislaus, and it was held that the rates fixed by Fresno and Merced counties were elements to be considered in determining whether the rates fixed by Stanislaus county were reasonable and just. The opinion of the court concluded with this observation:

"Hereafter, in case the other counties should fix rates in such manner that, taken as a whole, the rates in the three counties would not insure an income of at least six per cent, as provided in the Act of 1885, the company would of course not be bound to accept such rates, and a decree in this case would not bind it in regard to the propriety of rates for the future, as fixed by the ordinance of 1896 for the county of Stanislaus."

The decision of the Court directed that the judgment of the Circuit Court should be reversed and the bill dismissed without
340 prejudice (Stanislaus County v. San Joaquin C. & I. Co., 192 U. S. 201). On September 19, 1907, the complainant, following the decision of the Supreme Court that Fresno and Merced counties were necessary, if not indispensable, parties to the controversy, filed the present bill against the boards of supervisors of the counties of Fresno, Merced and Stanislaus. The jurisdiction of this court is based upon diverse citizenship, also upon the claim that the case involves the construction or application of the Constitution of the United States. The equity jurisdiction of the court is invoked to avoid a multiplicity of suits. The general object of the bill is to have it judicially determined that certain rates fixed by the supervisors of the counties of Merced, Fresno and Stanislaus for the sale, rental and distribution of water by the complainant to the inhabitants of said counties do not, as a whole, furnish the return for the use of its property as provided by law; that the rates are, therefore, unreasonable and such as to deprive the complainant of its property without due process of law, and without just compensation. The present proceeding is upon an order, based upon the verified bill and affidavits, that defendants show cause why an injunction pendente lite should not issue, restraining them during the pendency of this suit, and until the further order of this court, from enforcing the orders fixing the rates for the sale, rental and distribution of water mentioned in the bill of complaint.

The defendants have answered the order to show cause by affi-

davits setting forth certain facts which do not materially controvert the facts set up by complainant in its bill, but which it is contended justified the board of supervisors in making the orders fixing the rates which are the subjects of controversy.

It is alleged in the bill of complaint that the complainant owns and maintains a system of canals and works for the purpose of diverting, carrying and distributing water in the counties
341 of Fresno, Merced and Stanislaus; that said canals and works head on the San Joaquin river at its junction with the Fresno Slough in the county of Fresno, and thence, running through said counties of Fresno and Merced, enter and terminate in the county of Stanislaus; that it has the right to divert from said San Joaquin river and into said canals not less than 760 cubic feet of water per second, where there is so much water flowing in said river at complainant's head works, and when less than that quantity is there flowing, then all the waters flowing in said river.

The boards of supervisors of the several counties of the state are required, under the Act of the Legislature of the state, approved March 12, 1885 (Stats. 1885, p. 95) to estimate as near as may be the value of the canals, ditches, flumes, waterways and all other property actually used and useful in the appropriation and furnishing of water by persons, companies or corporations for sale, rental or distribution to the inhabitants in the several counties of the state, and in like manner to estimate the annual reasonable expenses of such persons, companies, or corporations, including the cost of repairs, management and operating such works. Upon these estimates, the board of supervisors are authorized, under section 2 of the Act, to establish maximum rates at which water shall be sold, rented or distributed. The rates are required, under section 5 to produce a net income of not less than six nor more than eighteen per cent per annum upon the value of the property used and useful in furnishing such water. In pursuance of this requirement of the statute, the boards of supervisors in Fresno, Merced and Stanislaus counties estimated the value of complainant's property in each of said counties for the year 1907, and also the annual reasonable expenses of maintaining such property in said counties in fur-
342 nishing the inhabitants with water for irrigation purposes during said year.

These estimates were as follows:

Value of property in Fresno county	$116,250.00
Value of property in Merced county	750,000.00
Value of property in Stanislaus county	335,456.32
Total in three counties	$1,201,706.32

The boards of supervisors of the three counties, as authorized and required by section 2 of the Act, fixed the maximum rates which complainant might charge the inhabitants of the counties for each and every kind of irrigation, as follows: In Fresno county 85 cents per acre per annum, in Merced county $1.65 per acre per annum, and in Stanislaus county $1.50 per acre per annum. It is alleged

in the complaint that the greatest area for irrigation which complainant or its predecessor has ever furnished or been called upon to furnish in said counties is 103,980 acres, as follows: in Fresno county 39,928 acres, in Merced county 52,379 acres, and in Stanislaus county 11,673 acres.

The income from complainant's property in these three counties, based upon the areas stated and the rates fixed by the boards of supervisors, is as follows:

Income.

In Fresno County	$33,938.80	
In Merced County	86,425.35	
In Stanislaus county	17,509.50	
		$137,873.65

Estimated Reasonable Annual Expenses.

In Fresno county	$21,750.00	
In Merced county	37,000.00	
In Stanislaus county	35,000.00	
		$93,750.00

Deducting the estimated expenses from the estimated income, the result, as a whole, is a net annual income of $44,123.65, or 3.67 per cent on the estimated value of the property as determined by the boards of supervisors.

343 But complainant claims the right to have the equivalent of not less than 6% per annum on the reasonable value of its property under the provisions of section 5 of the Act. This section provi-es as follows:

"Said boards of supervisors, in fixing such rates, shall, as near as may be, so adjust them that the net annual receipts and profits thereof to the said persons, companies, associations and corporations so furnishing such water to such inhabitants shall not be less than six nor more than eighteen per cent upon the said value of the canals, ditches, flumes, chutes, and all other property actually used and useful to the appropriation and furnishing of such water of each of such persons, companies, associations and corporations."

If the complainant is entitled to receive a net income from its property of not less than six per cent per annum as provided by the statute, and the valuations fixed by the boards of supervisors are correct, then the rates fixed by such boards and which are the subject of controversy, do not give the complainant a fair, just, or reasonable return upon the value of its property as a whole, and such rates have the effect to deprive the complainant of its property without due process of law. Spring Valley Water Works v. City and County of San Francisco, 124 Fed. 574, 601; Consolidated Gas Co. v. City of New York, 157 Fed. 849, 879. But this is not all. The estimated reasonable annual expenses of the complainant in operating its canal system, so far as relates to the county of Stanislaus, is, as has been stated, the sum of $35,000. The maxi-

mum rate to be charged for water is $1.50 per acre per annum. The number of acres irrigated in that county is 11,673. The complainant's income in Stanislaus county would, therefore, be $17,509.50, as above stated, or $17,490.50 less than the estimated expense as determined by the board of supervisors. It cannot be that complainant is required to deliver water at a loss, but that appears to be the position taken by the board of supervisors of Stanis-
344 laus county, if any reliance can be placed upon the official estimates placed before the Court upon the hearing. It is true that upon the argument counsel for Stanislaus county denied that this estimate of expense for Stanislaus county is correct and claimed that it referred to the expense of the complainant's canal system in all three counties. If this is so, then no estimate has been made by the Board of Supervisors of Stanislaus county of the expense of complainant's canal system in that county, and there was, therefore, no basis upon which they could fix a valid vote for that county.

The estimate of valuation made by the board of supervisors of Stanislaus county appears to be based upon a report made to the board of supervisors by Charles E. Sloan, a civil mining and construction engineer. In this report he says:

"That in June, 1907, he made a thorough and extensive examination of the canals and works of the complainant actually used by complainant for the appropriation and furnishing of water to the inhabitants of the County of Stanislaus; that said examination was made for the purpose of estimating the present value of said canals and works and the annual reasonable expenses incurred by complainant in supplying water to the inhabitants of said County of Stanislaus, which said expenses include the cost of repairs, management and operation of said canals and works; * * * that the said examination was made by minutely examining every part of said canal works from the beginning to the end, and estimating the cost of materials, labor and property of said canal in accordance with the present day prices, and the deducting for depreciation to obtain the present value; that said detailed report which is hereinafter set forth and made a part of this affidavit, shows that the present cost of said canals and works is four hundred thirteen thousand three hundred six and 32/100 ($413,306.32); * * * that after subtracting for depreciation, the present value is esti-
345 mated to be three hundred thirty-five thousand four hundred fifty-six and 62/100 ($335,456.62)."

The report attached to the affidavit contains a detailed statement of the quantity of earth work in cubic yards, the quantity of lumber in feet, telephones, station building, dredger, scrapers, plows, tools, &c., horses, harness and wagons, scows, skiffs, &c., engineering, superintendency and incidentals. The cost of the material and work is stated as being $413,306.32, but from this sum the engineer deducts $77,849.70 for deterioration in the value of materials. For deterioration in lumber, carpenter work, nails and iron he deducts $47,849.70, and for deterioration in earth work he deducts $30,000, making a total of $77,849.70, leaving complainant's plant useful

for Stanislaus county valued at $335,456.62. Whether there is such a deterioration in the value of the plant is an issue that cannot be determined upon affidavits, and need not be determined upon this hearing, as the estimate of value made by the board of supervisors of Stanislaus county has taken this deterioration into account and is the net valuation after deducting for deterioration that enters into the total valuation of the whole plant at $1,201,706.32 for the three counties, and upon which the rates fixed yield the complainant an income of only 3.67 per cent per annum. But if we admit the claim of deterioration, it has this aspect to be considered, that if a deduction is to be made from the value of the plant on this account, then an allowance should be made for such deduction and added to the annual income, to enable the complainant to renew and reconstruct so as to preserve the integrity of the plant. If this is not done and the deterioration continues from year to year, as it will, and the rates are reduced accordingly each year, both will eventually decline to a vanishing point. For example, suppose the value of the plant last year was one million dollars, and the rates fixed yield a net income of six per cent or $60,000, without any allowance whatever for deterioration. The value of the
346 plant this year is one million dollars less a deduction for deterioration of, say five per cent or $50,000. Deducting that amount from one million dollars, we have $950,000, as the value of the plant upon which the income of six — cent or $57,000 is to be allowed. If this method of deducting for deterioration from year to year is carried on long enough without any provisions being made for renewal or reconstruction, the plant and its income will, of course, eventually disappear. To avoid this result there should be a reasonable provision for renewal or reconstruction work, such as is now always provided for in the operation of any well-conducted manufacturing plant, and sanctioned by the courts in determining the reasonableness of rates fixed by public service corporations. San Diego Land Company v. National City, 174 U. S. 739, 757; Stanislaus County v. San Joaquin C. & I. Co., 192 U. S. 201, 215. It follows that if there is such deterioration going on in plaintiff's works as claimed by the defendants, and no provision is made for renewal or reconstruction, as there is not in the estimates before the court then the rates fixed by them, which yield an income of only 3.67 per cent per annum, are still further unreasonable and unjust, for this reason if for no other.

There is still another feature of this case to be considered, and that is the relative cost of delivering the water through complainant's canals to the inhabitants of the three counties. As before stated, the head works of complainant's canal system is in Fresno county. It runs through Fresno county in the direction of Merced County, through Merced county into Stanislaus county.

It is alleged in the complaint that complainant is in possession of and is able to furnish at the head of its system of canals seven hundred and sixty cubic feet of water per second, but owing to the necessary evaporation and seepage of water in said canals twelve hundred and forty-three ten thousandths (0.1243) of said water is lost in

delivering the same in said county of Fresno, three hundred — thirty-nine thousandths (0.339) of said water is lost in delivering the same in said county of Merced, and fifty-three hundred
347 sixty-seven ten thousandths (0.5367) of said water is lost in delivering the same in said county of Stanislaus.

The affidavit of J. D. Schuyler, a civil engineer states that in 1904 he made an examination of complainant's canal for the purpose of determining generally the loss by seepage. His conclusions were that if one thousand second-feet (that is cubic feet per second)—which he says is about the capacity of said canal—were admitted at the head, the average loss by seepage in the first thirty miles would approximately be about ten second feet per mile, in the next twenty-five miles about seven second-feet per mile, and in the last six miles about five second-feet per mile. He concludes that it would be necessary to turn into the said canal at its head not less than four hundred second feet in order that any water should reach Stanislaus county and that if six hundred feet should be turned in at the head, not more than 150 second feet would reach the lower end. This loss, whatever it may be, would seem to indicate that complainant ought not to be required to deliver water in Stanislaus county for a less rate than in Merced county which is nearer the head works, but this is precisely what the rate fixed in Stanislaus county requires. The rate fixed in the latter county is $1.50 per acre per annum, while the rate fixed in Merced county is $1.65 per acre per annum. The service rendered by complainant to the inhabitants of Stanislaus county in the delivery of water to them by an open canal at a distance of sixty or seventy miles from the head works must, all things considered, be of greater value than a like service rendered to the inhabitants of Merced county at a distance of thirty to sixty miles from the head works, and if the rate of $1.65 fixed for the latter service is reasonable and just, it would seem that the rate of $1.50 fixed for the former service was unreasonable and unjust in not providing the complain-
348 ant a reasonable compensation for the service rendered. This view is further confirmed by the fact that the board of supervisors of Merced County have fixed the rate for that county at $1.65 per acre per annum, while the board of supervisors of Fresno county, where the head works are located, have fixed the rate at 85 cents per acre per annum, showing that in the judgment of the former board the complainant was entitled to receive a higher rate for the service of delivering water in Merced county than for a similar service in Fresno county. These comparisons indicate that the controversy turns mainly upon the reasonableness of the rates fixed in Stanislaus county. Indeed it was admitted upon the hearing that the complainant had no substantial controversy with the boards of supervisors of either the counties of Fresno or Merced individually, but under the decision of the Supreme Court of the United States the complainant cannot ignore those two counties in having it judicially determined whether it is being deprived of an income to which it is entitled under the law, and, if so, to what extent, if any, either of the

counties is at fault. This appears to be a difficult question. The Supreme Court, in referring to it, said:

"Exactly how the question may be hereafter determined as to the percentage of income, where there are three different boards of supervisors who may fix rates for the respective counties, each differing from the other, is not made clear by the statute." It certainly cannot be determined upon the present hearing. The question now before the court is whether, upon the showing made, the complainant has made out a sufficient case to entitle it to an injunction to preserve the status quo until the case can be heard upon the merits, and in reaching a conclusion upon that question the Court must consider the case as a whole. The argument upon the hearing took a wide range, touching questions that can only be determined upon the final hearing.

349 Whether complainant is entitled to an injunction pending litigation is comparatively a narrow question. In Glascott v. Lang, 3 Myl. C. 451, 455, Lord Chancellor Cottenham said:

"In looking through the pleadings and the evidence, for the purpose of an injunction, it is not necessary that the court should find a case which would entitle the plaintiff to relief at all events. It is quite sufficient if the court finds, upon the pleadings, and upon the evidence, a case which makes the transaction a proper subject of investigation in a court of equity."

In Hadden v. Dooley, 74 Fed. 429, 431, 20 C. C. A. 494, Judge Shipman, in the Circuit Court of Appeals for the Second Circuit, said:

"When the questions which naturally arise upon the transactions make them a proper subject for deliberate examination, if a stay of proceedings will not result in too great injury to the defendants, it is proper 'to preserve the existing state of things until the rights of the parties can be fairly and fully investigated and determined' by evidence and proofs which have the merit of accuracy."

In City of Newton v. Levis, 79 Fed. 715, 25 C. C. A. 161, Judge Sanborn, in the Circuit Court of Appeals for the Eighth Circuit declared a rule respecting the granting of preliminary injunctions which has since been so often cited with approval by other courts that it may be deemed to have become the established law upon the subject. He says:

"The controlling reason for the existence of the right to issue a preliminary injunction is that the court may thereby prevent such a change of the conditions and relations of persons and property during the litigation as may result in irremediable injury to some of the parties before their claims can be investigated and

350 adjudicated. When the questions to be ultimately decided are serious and doubtful, the legal discretion of the judge in granting the writ should be influenced largely by the consideration that the injury to the moving party will be certain, great, and irreparable if the motion is denied, while the inconvenience and loss to the opposing party will be inconsiderable, and may well be indemnified by a proper bond, if the injunction is granted. A preliminary injunction maintaining the status quo may properly issue whenever

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the questions of law or fact to be ultimately determined in a suit are grave and difficult, and injury to the moving party will be immediate, certain, and great if it is denied, while the loss or inconvenience to the opposing party will be comparatively small and insignificant if it is granted."

The questions to be ultimately decided in this case are certainly serious and doubtful, as intimated by the Supreme Court where there are three different boards of supervisors representing counties each differing from the other in its relation to complainant's canal system, and where the boards differ as to the valuation to be placed upon the property used and useful in delivering water to the inhabitants of their respective counties and the expenses of the complainant in performing this service and the rates to be charged in each county that will yield in the aggregate a net income of not less than six per cent per annum on the value of the property as a whole. To solve these questions fairly will require a very full and accurate investigation, aided by testimony carefully sifted by the usual rules of examination. It cannot be accomplished on a hearing where the evidence is submitted upon affidavits, but the Court is required upon this hearing to determine whether the evidence so presented is prima facie sufficient to justify the Court in restraining the defendants from enforcing the rates established by them pending litigation. To determine this question the Court must consider the case in its entirety and as producing aggregate results.

351 For that purpose a reference to further evidence is necessary. In the former case R. H. Goodwin, an engineer of large experience, was employed by the board of supervisors of Stanislaus County as an expert to estimate the value of the works of complainant's predecessor in interest as of that date, namely the year 1896. The estimate as made for the board of supervisors by Goodwin had no relation to the amount of capital actually invested in the corporation by the shareholders of the original cost of the property, but was based upon the estimated reasonable value of the property at that date. This method of ascertaining the value was approved by the Supreme Court (Stanislaus County v. San Joaquin C. & I. Co., 192 U. S. 201, 215). In the present case Mr. Goodwin has made a detailed estimate of the value of complainant's entire canal system for the year 1907. This estimate is attached to an affidavit dated January 8, 1908, in which the affiant declares that his examination of the property was very thorough and complete, and occupied a period of about fifty or sixty days. The estimate is in elaborate detail and, as in the previous case, is not based upon the original cost of the works, but upon their estimated reasonable value at the time of the examination. It appears from this detailed estimate that complainant's head works were of the value of $84,732.23; that its canal system in Fresno county was of the value of $312,947.38; that in Merced county the system was of the value of $524,175.60, and that in Stanislaus county the system was of the value of $74,457.42. The aggregate value of complainant's headworks and canal system in the three counties named was, therefore, the sum of $996,312.63. In addition to this valuation is the value of the land occupied by the

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canals and their rights of way, which does not appear in Mr. Goodwin's affidavit, but this valuation is furnished by the affidavits of parties claiming to have knowledge of the lands in the
352 locality where the canals are situated. In Fresno county the average valuation is given at $15 to $20 per acre; in Merced county at $60 to $70 per acre, and in Stanislaus county at $100 per acre. The land occupied in Fresno county for headworks is 78.44 acres and for canals 1,288.50 acres, making a total of 1,366.94 acres, which at $15 per acre, the lowest valuation, would be of the total value of $20,504.10. The land occupied by canals in Merced County is 2,016.63 acres, which at $60 per acre, the lowest valuation, would be of the total value of $120,997.80. The land occupied by canals in Stanislaus county is 290.90 acres, which at $100 per acre would be of the total value of $29,090. These valuations of the lands occupied by the head-works and canals make a total of $170,591.90, which amount added to the valuation of $996,312.63 for the headworks and canals makes a total of $1,166,904.53 for complainant's physical properties employed in the business under consideration. There is, however, the additional value of the right to divert 760 cubic feet of water per second from the San Joaquin river for irrigation purposes, which it is alleged in the complaint is of the value of $760,000. In the affidavit of Samuel Fortier, an irrigation engineer of high repute, this right is valued at twenty-five dollars per acre for the land under complainant's canal system. As the area of this land is 103,980 acres, this valuation would amount to $2,599,500; but, while this right is undoubtedly of value, it may not be a value upon which ultimately complainant may be given a return under the law. It is, therefore, not made a part of the valuation of complainant's property for the purpose of the present proceeding, but it is referred to as presenting a question that will require future consideration. For the present the doubt is resolved against the complainant. We now proceed to consider the question of income provided for the use of complainant's visible tangible property alone. The number of acres irrigated in the three counties respectively in the year 1905 was as follows:

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In Fresno county:		
Main canal system	26,392	
Dos Palos system	5,279	
Outside system	8,257	
		39,928
In Merced county:		
	33,662	
Dos Palos system	5,838	
Outside system	12,879	
		52,379
In Stanislaus county:		
Main canal system		11,673
Total		103,980

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The maximum rates fixed by the boards of supervisors to be charged by the complainant to the inhabitants of the counties respectively for each and every kind of irrigation would yield an income amounting to $137,873.65 per annum. The books of the complainant show that the annual expenses of complainant's canal system, including the cost of repairs, management and operating expenses, was, for the year 1906, the sum of $87,669.75, or omitting the cost of litigation as to water rates, the sum of $86,437.50. Deducting these latter costs and expenses from the estimated income of the complainant for the same period, the result is a net annual income of $51,436.15. This net income is equivalent to 3.08 per cent of the total estimated value of complainant's canal system, amounting to $1,166,904.53. Whether this is a fair and reasonable return on the value of complainant's property without regard to the minimum rate of six per cent provided by law, is a question the court is not called upon to determine. All the court is called upon to decide is whether the rates established are based upon a reasonable valuation and yield a net income of six per cent. But disregarding a provision of the statute, there is no evidence before the court that an income of 3.08 per cent per annum for this kind of property is reasonable and just.

354 In the case as presented to the Court there does not appear to be any reason why the complainant should be required to accept, on the valuation made by the board of supervisors a net income of 3.67 per cent per annum, or why the complainant should be required to receive a net income of 3.08 per cent per annum on the detailed valuation made by engineer Goodwin. The value of the water to the consumers in all three counties, as shown by the complaint and supporting affidavits is much more than the equivalent of an income of six per cent per annum. The facts shown are summed up in the allegations of the complaint, "that the portions of said three counties through which complainant's said canals run are of an extremely arid nature and such that agriculture cannot be profitably carried on without artificial irrigation" and the "inhabitants" of the three counties "paying for said water at rates which would so enable the complainant to receive such annual net income of six per cent., could and would realize annual net profits in the cultivation of their lands much exceeding six per cent upon the amount invested by them therein."

It is objected by counsel representing the county of Stanislaus that the complainant has been guilty of laches in not sooner pressing this controversy to a judicial determination, but it appears that complainant has been endeavoring ever since 1896 to have the question at issue settled by the courts. The complainant's predecessor was organized as a corporation under the laws of the State of California in September, 1871. By the Act of March 12, 1885 (Stats. of 1885, p. 95) the Legislature of the State authorized the several boards of supervisors of the State to fix and regulate the maximum rates at which any person, company, association or corporation should sell, rent or distribute water in each of the counties

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of the State. In 1896 the County of Stanislaus for the first
355 time fixed rates under the Act of 1885. These rates were the subject to controversy in San Joaquin and Kings River C. & I. Co. v. Stanislaus, 113 Fed. 930, decided in 1902, and Stanislaus County v. San Joaquin C. & I. Co. 192 U. S. 201, decided January 18, 1904. Consumers of water in Merced and Fresno counties thereupon applied to the Boards of Supervisors of those counties to fix rates for water, which they did in 1904, and these were the first rates fixed by those counties. It was claimed by complainant's predecessor that those rates taken in connection with the rates fixed by Stanislaus County in 1896 did not give the complainant six per cent upon its investment as a whole, and thereupon it brought suit in the Superior Court of Fresno county to have the rates set aside. This suit was decided in August, 1906, the court holding that it could not give relief because the canal company had not applied to the County of Stanislaus for a new ordinance fixing rates which together with the rates fixed by the counties of Merced and Fresno would determine the income to which the canal company was entitled for the use of its plant as a whole. The canal company appealed from that decree to the Supreme Court of the State, where the case is now pending. All three counties fixed rates for the second time in the year 1907. It is the latter rates that are here in controversy. That the first suit against the county of Stanislaus failed to accomplish a judicial determination of the controversy was not because complainant did not assert its rights against that county, but because Fresno and Merced counties had not been made parties to the action. It cannot be said, therefore, that as against the county of Stanislaus the complainant is pressing a stale claim, and besides with respect to all three counties it appears that complainant is seeking, with reasonable promptness under all the circumstances, to have its rights determined.

It is objected that the equity jurisdiction of this court should not
be extended to this case on the ground that it will avoid a
356 multiplicity of suits. In support of this objection it is said that complainant's predecessor had commenced in the State court one hundred and forty suits against consumers along the canal in Stanislaus county to recover the difference between one and fifty one-hundredths dollars ($1.50) per acre and two and thirty-five one-hundredths dollars ($2.35) per acre per annum. These suits obviously relate to past transactions wherein complainant claims to have delivered water to consumers for which it has not been paid the amounts to which it was entitled under the law. The suits are against individuals in one county and manifestly such actions at law are inadequate to determine this controversy. The present suit relates to the action of the boards of supervisors in all three counties with respect to rates to be charged all consumers for the year commencing July 1, 1908. It has reference to the future alone and its purpose is to have the whole controversy in that respect determined in one suit. To state these facts is to answer the objection and furnish a sufficient reason for the equity jurisdiction.

It seems to me clear, from the foregoing statement, of the main

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facts presented to the Court upon the hearing, that prima facie the maximum rates fixed by the boards of supervisors of Fresno, Merced and Stanislaus counties for the use of complainant's property used and useful in delivering water for irrigation purposes to the inhabitants of these counties, will not, as a whole, yield the minimum income to which complainant is entitled under the law; but as this conclusion is based upon the facts presented by the verified bill and the affidavits in support thereof, and upon a final hearing the facts may appear to be otherwise, I deem it proper to provide for the contingency that upon the final hearing the evidence may not justify a decree in favor of the complainant. It is, therefore, ordered that a temporary injunction issue, as prayed for in the com-
357 plaint, upon the complainant filing an undertaking herein with two sufficient sureties (or any surety company approved by the clerk of this court as a single surety) in favor and for the benefit of the defendants, also for the benefit of any person or persons, and all persons who may be injured by reason of this order, in the sum of one hundred thousand dollars, conditioned that the complainant will pay to the defendants, or any of them, and to any person or to all persons who may be injured by reason of this order, any and all damages which they or any of them may sustain in the premises, if upon the entry of a final decree in this action upon the merits the defendants shall prevail or if it should be determined and adjudged that this order has been or is improvidently issued.

Endorsed: No. 14554. In the United States Circuit Court, Ninth Judicial Circuit, Northern District of California. The San Joaquin and Kings River Canal and Irrigation Co. vs. The County of Stanislaus et al. Opinion granting Injunction pendente lite. Filed June 29, 1908. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

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358 In the Circuit Court of the United States, Ninth Circuit, Northern District of California.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, Defendants.

Opinion of Court on Final Hearing.

In Equity.

Action to enjoin the enforcement of certain water rates established by the Boards of Supervisors of the Counties of Stanislaus, Merced and Fresno, in the State of California, to be charged by the complainants as owner of certain canals and other works of a water distributing system, for water furnished to consumers, and to declare said rates null and void on the ground that they and each of them are so low as to deprive complainant of its property without due process of law, and without just compensation.

Garrett W. McEnerney, Frank H. Short, Edward F. Treadwell, Solicitors for Complainant.

Maddux & Maddux, Denver S. Church, M. F. McCormick, H. S. Schaffer, and J. P. Langhorne, Solicitors for Defendants.

359 MORROW, *Circuit Judge:*

The complainant is a corporation organized and existing under the laws of the state of Nevada and is the successor in interest of a corporation of substantially the same name organized under the laws of the state of California, which former corporation for more than thirty years next preceding the 14th day of June, 1905, was engaged in furnishing water for irrigation, sale, rental and distribution to the inhabitants of the counties of Fresno, Merced and Stanislaus. This former corporation on the 14th day of June, 1905, for a valuable consideration transferred to the complainant all its canals, works and property and all the water appropriated by it and all its right to appropriate water together with all its property and business connected therewith.

The present controversy between the complainant and the Counties of Stanislaus, Merced and Fresno is substantially the continuation of a controversy between the complainant's predecessor and the County of Stanislaus alone which was before this court in San Joaquin and K. R. Canal & Irr. Co. v. Stanislaus County, 90 Fed. 516, and 113 Fed. 930; and which reached the Supreme Court, and is reported in Stanislaus County v. San Joaquin and Kings River Canal and Irri. Co., 192 U. S. 201. This former case related to certain maximum water rates fixed by the board of Supervisors of Stanislaus

County to be charged annually by the complainant in that case after June 24, 1896. The present case relates to certain maximum water rates fixed by the Boards of Supervisors of Stanislaus, Merced and Fresno Counties to be charged annually by the complainant in this case after the 1st day of July, 1907.

Complainant alleges in its complaint that it owns and
360 maintains a system of canals and works for the diversion, carrying and distributing of water from San Joaquin River and Kings River, and their tributaries, from Tulare Lake and streams flowing thereinto; that said canals and works head on the San Joaquin River at its junction with the Fresno Slough in the County of Fresno, and thence running through the counties of Fresno and Merced to and into the county of Stanislaus; that the canals and works actually used and useful in furnishing water to the inhabitants of said counties are of the value of more than one million one hundred thirty-two thousand five hundred fourteen dollars and eighty-five cents ($1,132,514.85); the complainant is the owner of the right to divert from the said San Joaquin River and into said canals not less than 760 cubic feet per second, when there is so much water flowing in said river at complainant's headgates, and when less than that quantity is there flowing then all the water then flowing in said river; that the said right to divert said water and to sell and distribute the same is the property of the complainant and is of the value of not less than $760,000, exclusive of and apart from the value of the canals and works.

The Act of the Legislature of the State approved March 12, 1885, (Stats. 1885, p. 95) is referred to in the complaint. It provides in section 1 that the use of all water now appropriated or that may thereafter be appropriated for irrigation, sale, rental or distribution is a public use and the right to collect rates or compensation for the use of such water is a franchise, and except when so furnished to any city, city and county or town, or the inhabitants thereof, shall be regulated and controlled in the counties of the state by the several Boards of Supervisors thereof in the manner prescribed in the act.

In section 4 it is provided that the boards of supervisors shall estimate as near as may be the value of the canals, ditches,
361 flumes, water chutes and all other property actually used and useful to the appropriation and furnishing of such water belonging to and possessed by the person, association, company, or corporation whose franchise shall be so regulated and controlled, and shall in like manner estimate the annual reasonable expenses, including the cost of repairs, management and operating such works. Upon these estimates the Boards of Supervisors are authorized and required by section 2 of the Act to fix and regulate the maximum rates at which water may be sold, rented, or distributed. By section 5 of the Act the Boards of Supervisors are required in fixing such rates to so adjust them that the net annual receipts and profits thereof shall not be less than six nor more than eighteen per cent of the value of the canals, ditches, flumes, chutes, and all

other property actually used and useful to the appropriation and furnishing of such water.

It is further provided that in fixing said water rates the Boards of Supervisors may likewise take into consideration any and all other facts, circumstances and conditions pertaining thereto, to the end and purpose that said rates shall be equal, reasonable and just, both to such persons, companies, associations and corporations and said inhabitants.

It is alleged in the complaint that in May and June, 1907 the Boards of Supervisors of the counties of Stanislaus, Merced and Fresno in assumed compliance with the said act of the legislature estimated the value of the canals, ditches, flumes and other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of the respective counties, and at the same time the Boards of Supervisors estimated the annual reasonable expenses, including the cost of repairs, management and operating the said works so far as
362 relates to each of said counties, and fixed the maximum rates for each and every kind of irrigation here tabulated as follows:

County.	Value of property.	Annual expenses.	Maximum rate fixed per year.
Stanislaus	$335,456 32	$35,000	$1.50
Merced	750,000.00	37,000	1.65
Fresno	116,250.00	21,750	.85

It is alleged that the greatest area for the irrigation for which complainant or its predecessor has ever furnished or has been called upon to furnish water in said counties is 103,980 acres as follows:

Stanislaus County	11,673	acres.
Merced County	52,379	"
Fresno County	39,928	"
Total	103,980	acres.

That there is no reason to expect or believe that said areas or either of them will or can be increased for several years.

The income from complainant's property in these three counties, based upon the area stated and the rates fixed by the Boards of Supervisors would be as follows:

In Stanislaus County, 11,673 acres at $1.50	$17,509.50
In Merced County, 52,379 acres at $1.65	86,425.35
In Fresno County, 39,928 acres at $.85	33,938 80
	$137,873.65

It is alleged that the rates so attempted to be fixed by the said Boards of Supervisors are grossly unfair and unreasonable; and such that the net annual receipts and profits thereof to the com-

plainant for waters furnished to the inhabitants of the said counties cannot possibly amount to six per cent, nor to any per cent, upon the amount so estimated by said Board to be the value of complainant's said property actually used and useful in the appropriation and furnishing of said water to the inhabitants of said counties; and would not even repay to the complainant one-
363 half of its annual reasonable expenses, as established by said Board, nor will it allow or permit the complainant to receive any just and reasonable compensation for the property used by the complainant and useful to the furnishing of water to the inhabitants of said counties.

Upon filing the bill of complaint, supported by affidavits, and after hearing upon an order to show cause, this court directed that a temporary injunction issue as prayed for in the complaint, enjoining the Boards of Supervisors in the counties named from enforcing the maximum rates fixed by them as before stated. San Joaquin & King R. C. & I. Co. v. Stanislaus County, 163 Fed. 568. Subsequently the cause being at issue, it was referred to the Hon. E. H. Heacock, the Standing Master in Chancery of this court to hear and report his Findings of Facts and Conclusions of Law in the case. The Master has heard the testimony and upon such testimony has made an elaborate and carefully prepared report, dealing with all the questions of fact and law in the case in a clear and comprehensive manner. The patience and industry of the Master in the performance of this work are highly commended by all the parties to the controversy. The court joins in this commendation. The able and searching work of the Master has removed from the case many matters of detail which have been accepted by all parties as satisfactory and requiring no further consideration by the court. The court has therefore been relieved of much labor as the questions at issue have been reduced in scope and character; but the main and controlling questions still remain to be determined. The presumption in favor of the Master's Report as contended for by the defendants is admitted as the rule in an ordinary case in equity, but we are advised by the Supreme Court that in a case of this character we should not fetter our discretion or judgment by any artificial rules as to the weight of the Master's Findings however useful and well settled these rules may be in ordi-
364 nary litigation. Knoxville v. Water Co., 212 U. S. 1, 8. We must therefore give the testimony and the questions involved an independent examination, and to these questions we will now direct our attention.

The Master found from the testimony that the actual value of the property used by the complainant and useful in the appropriation and furnishing of water to the consumers under complainant's irrigation system was $896,829.55, and that the net annual income which the complainant should have received was $69,094.41. It was found further that this net income was the equivalent of 7.704 per cent. The statute provides that the rates fixed by the Boards of Supervisors for the services mentioned shall be so adjusted that the net annual receipts and profits to the associations,

companies, or corporations furnishing water shall be not less than six nor more than eighteen per cent. If the Findings of the Master are correct as to the value of complainant's property and the income derived therefrom, it follows that the complainant's income was more than the minimum fixed by the statute, and upon this basis the complainant has no cause of action and the bill should be dismissed. Whether the value of complainant's plant as found by the Master is correct is the controlling question now submitted to the court for determination.

The question is one of great difficulty. There is no ascertainable market value for a plant such as is owned by the complainant in this case. If it were offered for sale it would only command a price based upon the annual return which the plant would yield upon the investment, and the reasonable certainty of its continuance. If by reason of regulation of rates by a Board of Supervisors or other regulating body, the rates are uncertain and the return problematical, the value of the plant would be correspondingly depreciated. If on the other hand, the rates are fixed and
365 reasonably commensurate and certain for the service rendered, with the probability that they would be continued and a suitable return secured on the investment in the future the value of the plant would be correspondingly increased. Then there are other questions which enter into the value of such a plant if it were offered for sale, as, for instance, whether the plant is an economical system, rendering an efficient and satisfactory service in the distribution of water to the consumer; whether the lands to be irrigated are of the quality to make irrigation profitable and certain; and generally, whether all the conditions are favorable for the business of distributing water in the locality where the plant is established.

Mr. Wiel in his work on "Water Rights in the Western States," Third Edition, Section 1305, speaking upon this subject, says:

"Strictly speaking, it would appear that a great water plant has no fixed value; for value can be measured only by some standard accepted by custom, such as an open market, or what a thing brings on a sale, which is its price, or value measured in gold. Great distributing plants are so rarely sold that there is no such standard of measurement. There is no open market for such things.

"The only way in figuring in money the value of a thing having no sale market, and in its nature fixed and permanently bound in with its surroundings, is upon the money return which it brings in, comparing that return with the return received from things which do have a market value; that is, the measurable value of such a plant lies in the rates it can collect, and to attempt to fix rates upon its value (which depends upon the rates) is hence proceeding to a considerable degree in a circle. The result is that the determination of a value on which to figure the return must be more or less
366 arbitrary. It becomes considerably a matter of establishing some empirical formula by experiment."

The situation is one of great embarrassment to the courts called

upon to examine the reasonableness of rates fixed by public boards, but this much has been determined:

"What the company is entitled to demand in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public." San Diego Land Co. v. National City, 174 U. S. 739, 757. San Diego Land & Town Co. v. Jasper, 189 U. S. 439, 442. Wilcox v. Consolidated Gas Co., 212 U. S. 19, 41. It has been determined further that the "cost of reproduction is one way of ascertaining the present value of a plant like that of a water company, but the test would lead to obviously incorrect results, if the cost of reproduction is not diminished by the depreciation which has come from age and use." Knoxville v. Water Co. 212 U. S. 1, 9.

We then have this rule for ascertaining the value of a plant of the character of that owned by the complainant in this case: Find the cost of reproduction as of the date of the use in question, and then from this cost deduct the depreciation that has occurred from age and usage.

Turning now to the Master's Report we find that he has proceeded upon this rule for the purpose of determining the value of the plant and has made the examination in detail, making the aggregate as near as possible the cost of reproducing complainant's canal system as of the date of July 1, 1907, when the rates in controversy took effect.

The complainant claimed that the cost of reproducing the structures was the sum of $420,866.87. After a careful examination of the testimony upon this claim the Master found that the estimate was 25 per cent too high, and determined that the estimated cost of reproduction would be $315,515.14. The Master further
367 found that the depreciation on the present structures had been 30 per cent, or $94,654.54, which being deducted from $315,515.14 leaves the value of the structure as of July 1, 1907, $220,860.60. This last appears to be a large reduction for depreciation, but with a suitable allowance from annual earnings to keep the property from further depreciation the findings will be sustained.

The complainant claimed that the cost of reproducing the earth work of its canals would be $575,730.95. The cost was based upon the estimate that the canals had required the excavation of 5,367,765 cubic yards of earth. The complainant estimated that the cost of excavation would be 10.725 cents per cubic yard, making a total cost of $575,730.95. The defendants estimated that the canals required the excavation of 4,679,760 cubic yards of earth, and introduced testimony tending to show that the work of excavation could be made at a cost of 5.5 cents per cubic yard, making a total of $257,386.80. The testimony showed that the cost of excavation turned largely upon the appliances used. The complainant's estimate was based upon the cost of doing the work entirely by scrapers, and that of the defendants was based upon doing the work by means of modern excavating machinery. There was evidence tending to show that the combination of excavators and scrapers would be re-

quired in digging complainant's canals, and the Master found accordingly and fixed the cost of excavation at 8 cents per cubic yard. The Master accepted complainant's estimate as to the amount of earth required to be excavated to-wit, 5,367,765 cubic yards. The removal of this quantity of earth at a cost of 8 cents per cubic yard would be $429,421.20. The cost found by the Master was $429,425.28. The difference between these two amounts is immaterial. This estimate appears to be reasonable and the finding is sustained.

The complainant claimed that the earth work had appreciated in value in the sum of $129,365, and that this sum should
368 be added to the cost of reproduction. The Master refused to allow this claim. His reasons for so doing cannot be better stated than as set forth in his report. He says:

"Complainant also claims that the earthwork had actually appreciated in value, effectiveness and earning power by the lapse of time, by reason of the packing of the banks and the silting of the canals, thus avoiding breaks and preventing loss of water by seepage. The only witness produced by complainant to show the value of such alleged appreciation is Mr. Hammett, complainant's engineer. The testimony is somewhat lengthy on this point. I shall endeavor to state Mr. Hammett's theory of the alleged appreciation and his method of computing its valuation. He advances the proposition that a newly-built canal is less effective than an old canal by reason of the greater amount of seepage and loss of water than a new canal, due to the looseness of the soil, due to the banks not being compacted, and causing washouts and "blow outs," as it is called, making a new canal rather precarious of operation; that after it has been operated a few years it gets in condition; that it stays about the same from year to year, caused by the fact that the walls and the floor settle, and the silting; so that both seepage and leakage from the gates are largely stopped; that in order to make his estimate it is necessary for him to estimate the loss of water by such seepage in a new canal and to calculate the total seepage and evaporation. He further testified as follows:

'Q. Have you given attention to the amount of loss from seepage and evaporation in canals?

'A. I have in a general way, but I have been unable to get accurate figures on them. Figures are very hard to get, due to people wanting to get water through and not caring much about the measurements.

'Q. But have you experimented yourself in order to determine the amount of loss by seepage and evaporation in canals,
369 new and old, and otherwise?

'A. I have with old canals, but, as I say, on new canals I have been unable to get figures, except in a general way because we have no new canals of our own, and with other people's canals, they do not seem to care much about the figures; and so it is impossible to get accurate figures from them. They do, however, state that the loss is in a general way so much, but there is nothing accurate in those figures.

'Q. Well, irrespective of the exact figures, are you able to ap-

proximate the difference in loss between a new canal and a well silted canal, from the experience you have had?

'A. I am able to assume it at a quantity which I am sure is less than the actual quantity. That is the best I can do.

* * * * * * *

'Q. What examination, if any, have you made of the canals of complainant, in order to determine the amount of actual seepage and evaporation in the complainant's system of canals, as they now exist and during the year 1907-08.

'A. In August, 1907, I had measurements taken over the whole San Joaquin system and determined the amount of loss of water during a short period during that month; a period of seven days, in fact, was all that I was able to collect proper figures on, due to the inexperience of the men that I had at work on it. So I had to throw out the first two weeks of their work, and the third week they got in figures which could be taken. Then in 1908 I had continuous measurements taken from the 1st of July until the last of August, to determine the exact amount of loss from seepage and evaporation.'

"He then states that he has computed this loss, and that 33.1 per cent of the total intake was lost by seepage and evaporation.

'Q. Now, you stated that your experience permitted you to come to at least a minimum amount that would be lost in a new canal, and for the first few years of its construction. Will you please state what that experience has been in that regard and what
370 is the amount of loss in a new canal as compared with this canal?

'A. My knowledge of that is mainly from observation of a few small, new ditches, and of hearsay in regard to actual canals where water has run in on new canals. For instance, we have at the end of our southside canal a realty ditch which was put in during the past year, and we know how much water per acre it took in that ditch to irrigate. We know that that was about six or eight times the amount that it takes per acre to irrigate under our own canal. Therefore we assume that the extra quantity of water was lost in the canal, due to its being a new canal. It would be probably about five times the amount that is being lost per mile in our own canal. Then I have been told by people who were connected with the canal system—the San Joaquin system—that at the time when the extension of the canal was made from Los Banos Creek to Orestimba Creek, that between 400 and 500 second feet were turned into that canal first, in attempting to take it to the Orestimba Creek, and that very little of the water reached Orestimba Creek; that is that the loss for that—about thirty miles—was about 400 second feet for thirty miles.

* * * * * * *

'Q. Take this entire canal system, what would be your opinion as to the amount that it would lose on the average during the years before it got into what you might call a perfect condition?

* * * * * * *

'A. I should say that it would lose three times as much at the start as it would after, say, eight years or so, and that after eight years or so it would practically be silted, so that the loss would be very little more than it would be after any succeeding number of years.'

"He then states his method of computation as follows:

'A. The theory that I went on was this: that if the canal was constructed anew that there would be a very much increased quantity of water lost in that canal in the first few years, as I have
371 stated. The canal is entitled to a certain quantity of water. We have takers for all that water, and therefore the second feet lost during this few years while the canal was silting up is an actual loss in dollars and cents. I consider that loss as a block amount equal—that is that the loss on one year—the present loss in one year—that is the increased loss because of the canal being new, over this eight years would be equal to six times the present loss in one year. This is due to the fact that at first the first year it would be three times as much, but the second year it would be very much smaller, that is, the change in loss for that eight years would not run in a straight line, but would run in a curve approaching the horizontal; that at the end of eight years the loss would be the same from year to year, and that the total loss of those eight years would amount to, as I say, a block amount equal to six times the present amount in one year. That amount would be approximately 125,000 second feet for twenty-four hours. I give this a value equal to the value per second feet of every second foot which we sold during the past season, 1907-1908. This average amount received for every second foot that we sold was $1.05 per second foot for twenty-four hours, which made the value of this 125,000 second feet of excess loss, due to a new canal, to be worth $125,250.

* * * * * * *

'X Q. You never had occasion before this (his employment by complainant) to estimate the loss of water by seepage or evaporation in an irrigation canal under conditions exhibiting the same climate and the same or similar soil to that obtaining in complainant's canal—had you?

'A. I had not.

* * * * * * *

'X Q. Well, you never had any experience in making those measurements before, had you?

372 'A. I had never had experience in making those measurements before.'

"As heretofore stated, Mr. Hammett entered into complainant's employ in the year 1907.

"The total amount of the appreciation claimed is shown by complainant's Exhibit No. 26, which is Mr. Hammett's calculation of depreciation of structures and appreciation in earthwork, such appreciation in earthwork being $129,365.

"Defendants deny the theory of appreciation of earthworks and its application, and contend that no such alleged appreciation of

arthworks is proper in arriving at the present value of the canal, or the reason stated by Mr. Henderson (a witness on behalf of the efendants) in his testimony.

"In reply to the question: "I ask you whether, in your opinion, ny sum of money should be added to the value of these canals on ccount of or as representing in any way the loss of any water by eepage?' he answered:

'If the valuation of the canal should be increased in regard to ts cost or in regard to the value by the silting up of the canal to he extent of preventing further percolation, I should not think so, nasmuch as in the design of the canal it is one of the elements ecessary to have the canal sufficient to allow for seepage and vaporation in order to irrigate a certain area; and in the construcion of the canal to irrigate a given number of acres due considera-ion is given to that part of it; and therefore it follows that the riginal cost of the canal covered the feature of seepage; and that fterwards, if the seepage is reduced, it would simply give a greater arning capacity of the canal on the same investment.'

"In determining the question of present value, the method which as been followed, and which is conceded by both parties to be the roper method, was to establish the present cost of reconstructing he physical structures and earthworks of complainant's canal, to-gether with such properties as might be incident thereto. This method I have followed, as appears from the foregoing esti-373 mates. Having ascertained such cost of reproduction, the question is presented, in what respects is the canal at the ime of the application of the rates in question more or less valuable than such newly constructed canal. For the purpose of ascertaining such present value, it is admitted that the extent to which the canal has depreciated should be deducted from such estimated cost of reconstruction. Likewise it would seem to me that if by reason of a lessened amount of percolation the canals of complainant in their present condition are capable of delivering more water, thereby producing greater revenues to the company, it would be of more value than a canal estimated on the basis of the reconstruction figures aforesaid. From Mr. Henderson's statement, that if afterwards the seepage is reduced it would simply give a greater earning capacity of the canal on the same investment, it seems to me that it would necessarily follow that the canals would be more valuable by reason of such increased earning capacity. This is of course assuming that the canal company in this instance would be able to sell the waters which would be represented by the increased capacity of the canal.

"The only testimony offered to establish the valuation of this alleged appreciation is that of Mr. Hammett. Mr. Goodwin (a witness on behalf of complainant) made no calculations of either appreciation or depreciation, as heretofore stated. In order to arrive at the increased carrying capacity of the canals by reason of the less amount of seepage that would exist in new canals, it was necessary for Mr. Hammett to ascertain, first, the amount of water lost by reason of seepage in the present condition of the canals;

and, second, the amount of water that would be lost by seepage on the assumption that the canals were new. That Mr. Hammett as an engineer is competent to measure loss by seepage in the present canal, I believe satisfactorily appears by reason of his qualifications as a hydraulic engineer, but it is equally important that he
374 shall be competent to estimate the amount of seepage in the new canals, for without such an estimate no calculation as to the advantage of the present canals over the new canals could be made. The excerpts from the testimony above stated, I am of opinion, show that Mr. Hammett does not possess the necessary experience, and has failed to qualify as an expert witness to testify on the point of the seepage in new canals. To repeat his testimony, he found it impossible to get accurate figures on new canals, and his knowledge 'is mainly from observation of a few small, new ditches and of hearsay in regard to actual canals where water was run in on new canals,' as well as other portions of the testimony quoted, shows to my mind that Mr. Hammett is not a competent witness on this point. The burden of proof in establishing the amount of such alleged appreciation is on the complainant, and complainant must establish the same by satisfactory evidence.

"I do not find that the evidence offered on this point is satisfactory. Aside from the unsatisfactory character of such evidence, it seems to me that, admitting that such canals have appreciated in value, the amount of such appreciation would be affected by certain elements of depreciation caused by the collection of berm in the canal, which has been testified to in this case, and also by silting of the canal, which necessitates an expense of cleaning. Complainant contends that there is at present very little silt in the canals. Mr. Goodwin testified, in comparing the relative condition of the canal in 1906 and 1896, at which latter date he made an examination of the canal on behalf of the board of supervisors of Stanislaus county, that at the time of his examination in 1906 there was practically no silting at all, that the canal had practically had its cross section restored. Complainant also calls attention to the fact that one of defendants' witnesses, D. M. Rouse, testified that while he had not been over all the canal, some of it he had been over, and that
375 he had done considerable work on it, cleaning it out; and that the canal is in better shape than it was a few years ago, and that there was no silt where he had been. Mr. Rouse was formerly complainant's superintendent. Notwithstanding Mr. Goodwin's statement that there was practically no silt, which testimony referred to the time of his examination in 1906, I find that complainant has charged in its maintenance accounts for the year ending June 30, 1908 the sum of $15,760.44 for canal cleaning, the largest amount appearing in any one year.

* * * * * * *

"Defendants' witness Sloane has estimated in his report of complainant's properties a depreciation of earthworks by reason of silting to an amount of $30,000.00. I find that in Mr. Goodwin's report to the supervisors of Stanislaus county in 1896, he followed this method of deducting from the value of the earthworks an

amount for depreciation by silting, as appears from the testimony in a certain excerpt taken from Mr. Goodwin's testimony before the Board of Supervisors of Stanislaus county. In reply to the question:

'Q. How much in your calculation of the depreciation of $51,000 between the cost of construction and the present value did you allow for the fact that the canal was silted?

'A. I allowed the whole silting of the canal as 223,767 yards.

'Q. How much did you estimate it would cost to clean that?

'A. Ten cents.

'Q. So that accounts for $22,376.70 of the $51,000.00 depreciation from the cost of construction to the present value.'

"Mr. Goodwin in the case at bar testified that both appreciation and depreciation were questions to be considered in the valuation of these properties. According to Mr. Hammett's theory the canal would reach its maximum capacity in eight years. The canals concerning which Mr. Goodwin testified before the supervisors in 1896 had been constructed for more than eight years prior to the time of giving his testimony, and has as fully appreciated
376 in value as to the portions of the canal then existing as at the present day. Mr. Goodwin not only made no allowance for appreciation, but, as shown, deducted a sum for depreciation of the earthworks. It is true that complainant would not be bound by Mr. Goodwin's testimony given in such former proceeding, that it may not have urged this theory of appreciation at that time, or that, if the same was urged, Mr. Goodwin did not concede it. I cite this instance mainly for the purpose of showing that a deduction for depreciation of earthworks by silting should be made from the alleged appreciation.

"Also during the first eight years, which Mr. Hammett states is the time required to elapse before the seepage is normal, I take it little or no canal cleaning would be required, as the silting up of the canal to a certain extent is desirable in its early stages—silting reducing the seepage as testified to by Mr. Hammett. As Mr. Hammett takes the total value of the water lost during these eight years as representing the increased value of the canals in their present condition, it seems to me he should deduct from the value of such water the cost of canal cleaning, during a period of eight years, which is now required to keep the canals up to their normal efficiency. In other words, if a new canal lost $100,000 worth of water in eight years but needed no canal cleaning, and an old canal lost no water but required $100,000 for canal cleaning, the revenue derived would be the same. Complainant expended for canal cleaning and dredging from 1900 to 1908, $80,984.76.

"After a careful examination of all the testimony on this question, I find I am unable to make either a calculation as to appreciation or depreciation of the earthworks of the canal, and shall assume that the one offsets the other."

After carefully reading the testimony on this subject I
377 have reached the same conclusion the Master did with respect to this claim.

The Master found that the rights of way for complainant's canals were of the value of $144,119. To this finding no exception has been taken, but in addition to this valuation the complainant claimed before the Master and urges the claim here for the valuation for 286 miles of fences along the canals at a cost of $148.50 per mile, making $42,471. The Master rejected this claim for the reason that it was not supported by evidence. There is no evidence in the record that the complainant built any fences along the right of way. In complainant's brief before the Master it is stated: "That they were unable to prove that the company itself built these fences, but the books of the company refer to these fences as early as 1877. If we admit that the adjoining owners built the fences, still, if the canal company should fence its right of way, it would be liable for one-half of these fences (C. C. of Cal. Sec. 841). Undoubtedly a new company would be compelled to pay the cost of these fences if they attempted to condemn a right of way through this country."

The Master held that the inquiry he was called upon to make was the cost of reproducing the plant at the time the rates in question were fixed, and that such cost of reproduction must be applied to the property that was owned by the complainant. He was of the opinion that if the fences had not been built by the complainant and therefore did not belong to the complainant it would not be entitled to have them valued as a part of its property. I see no reason for sustaining the exception to this finding.

The complainant claimed that a fair and reasonable estimate of the life of weirs, gates, bridges, buildings and machinery, and other perishable structures in complainant's plant was thirty-three years; that an annual allowance should be made for such depreciation; and, on the basis that reproduction of these structures would cost
$420,866.87, it is claimed that an annual allowance should
378 be made of one thirty-third of that sum, to-wit, $12,748.08.

The Master found, as we have seen, that the cost of reproduction would be $315,515.14. He also found from the testimony that the average life of the structure was thirty-three years. Dividing $315,515.14 by thirty-three gives $9,561.06, as the average annual depreciation found by the Master. Defendants objected to such allowance on the ground that the complainant had entered in its maintenance account the expense incurred for repairs of structures, and that to allow complainant a sinking fund in addition would result in a double allowance for deterioration. The Master was unable to distinguish between repairs and replacements in the maintenance account and found the complainant at fault in not keeping a separate account for replacements and accordingly made no specific allowance for depreciation. In doing this the Master cites as authority the case of Knoxville v. Water Co., 212 U. S. 1, 13. In that case in estimating the value of the water company's plant large deductions were made on account of depreciation. These depreciations were divided into complete and incomplete depreciation. The complete depreciation represented that part of the original plant which through destruction or obsolescence had actually perished as

useful property. The incomplete depreciation represented the impairment in value of the parts of the plant which remained in existence and were continued in use. It was urgently contended on the part of the water company that in fixing upon a valuation of the plant upon which the company was entitled to earn a reasonable return the amounts of complete and incomplete depreciation should be added to the present value of the surviving parts. The trial court refused to approve this method, and the Supreme Court thought the refusal was proper. That question is not involved in this case. There has been no addition of any amount on account of depreciation to the present value of the surviving parts, but, on the contrary, a deduction of $94,654.54 from the cost of
379 reproduction has been made to find present value and what the complainant now asks is to be allowed to do what the Supreme Court says it should do, namely, "earn a sufficient sum annually to provide not only for current repairs, but for making good the depreciation and replacing of parts of the property when they come to the end of their life." The fact that the complainant has heretofore entered in its maintenance account expenditures for replacements ought not to deprive complainant of an allowance for depreciation in the future if the amount can be ascertained with reasonable accuracy by the method of computing the average annual depreciation as has been done in this case. The Supreme Court in the Knoxville case said further:

"The company is not bound to see its property gradually waste, without making provision out of its earnings for its replacement. It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is the duty to its bond and stockholders, and, in the case of a public service corporation at least, its plain duty to the public."

It seems to me that $9,561.06, the amount estimated by the Master as the annual depreciation of the plant should be specifically allowed that there may be a clear understanding that the depreciation of the plant is provided for and allowed out of the earnings that the value of the property may be kept unimpaired by use. It will then remain in estimating for the annual allowance for maintenance to separate annual repairs from expenses incurred for replacement to prevent depreciation. This may be a difficult task, as the Master has found with respect to the maintenance account now before the court. The distinction between ordinary repairs and repairs made in substantial reconstruction of the plant may not be accurately drawn, but absolute accuracy is not re-
380 quired in such details; what is required is an estimate as near as may be of the value of the property and an estimate as near as may be of the annual receipts and expenditures. The Act of March 12, 1885, requires the Boards of Supervisors to estimate as near as may be the value of the canals, ditches, flumes, water-chutes, and all other property of such corporations and in fixing rates to so adjust them that as near as may be the net annual

receipts and profits shall not be less than six nor more than eighteen per cent upon the estimated value; and in estimating such net receipts and profits the cost of any extension, enlargements, or any permanent improvements is not to be included as part of the expenses of management, repairs and operating of such works, but when accomplished may and shall be included in the present cost and cash value of such works. The question before the court is to determine whether the defendants in this case have made estimates in accordance with the requirements of the statute, and in so doing the revision must necessarily be also one by estimation.

Referring now to the maintenance account we find that complainant's books show that for the year ending June 30, 1908, it amounted to $83,487.28. In estimating what this account should be for an average year, the Master has made a number of deductions amounting in the aggregate to $16,372.44, leaving the amount to be deducted from complainant's gross income on account of maintenance the sum of $67,114.84. For example, the maintenance account as it appears in complainant's books contains the charge for expenses incurred in cleaning the canals, $15,760.44. The Master found that the average of this expense for the ten years from 1900 to 1908 was $6,074.23. He has accordingly allowed this amount for maintenance for the year ending June 30, 1908, and not the sum of $15,760.44, actually expended. The Master gives the reasons for such a reduced estimate. He says:

381 "In the matter of fixing rates the present act does not contemplate that the rates should be fixed annually; while the act provides a method by which such rates may be changed from time to time, and which could be so followed as to require rates to be fixed annually, it is clearly not the contemplation of the law that the rates should be so fixed.

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"There are many items in the expense account which would be an easy matter to control by any distributor of water, as an illustration, canal-cleaning, as well as the matter of repairs might be deferred for one or two years, and then an unusual amount of cleaning and repairs done in one year solely for the purpose of having the rates adjudged insufficient.

* * * * * * *

"It seems to me that it is both advantageous to the canal company and to the people of the counties that these rates should be so fixed that they will produce the annual rate on the average which the legislature intended that such company shall receive, but not less than six per cent, and that the question as to whether such rates are sufficient should be determined upon the basis of an average maintenance expense."

In view of the large deduction of thirty per cent, amounting to $94,654.54, made by the Master on account of the depreciated condition of the property upon which the complainant is to receive a correspondingly reduced income, and the further reduction of

\$9,686.21 from the amount actually expended in 1908 for
382 cleaning complainant's canals in estimating the average annual expenses for that work it would seem that the maintenance account might very well stand without further reduction.

In my opinion it is the duty of the complainant to keep its works in good repair, and depreciation promptly met by replacements. The number of acres irrigated under complainant's system for the year ending June 30, 1908, was 93,003.35. An allowance of \$9,561.06 for annual depreciation, in addition to \$67,114.84 found by the Master as the annual maintenance account, and the sum of \$488.10 for the Federal excise tax, would make the total sum of \$77,164. This sum will be approximately an allowance of eight-three cents per acre for cost of maintenance, which appears to be less than the average cost of maintenance for twenty of the United States Reclamation Service Projects, where the average is reported to be one dollar per acre. Wiel on Water Rights in the Western States, (3rd ed.) Sections 1288, 1399. I shall, therefore, concur in the Master's estimate of \$67,114.84 for the annual maintenance, including current repairs; and shall also find that the sum of \$9,561.06 should be allowed from the annual earnings to meet depreciation and keep the property unimpaired.

The Master's finding that the value of complainant's tangible property is \$896,829.55 is, therefore, sustained. The estimate for annual maintenance, amounting to \$67,114.84, to which is added the sum of \$488.10 for the Federal excise tax is also sustained. But to this estimate I will add the estimate of \$9,561.06 for annual depreciation, making the total amount for maintenance, includ-
383 ing repairs and the allowance for depreciation, and excise tax, the sum of \$77,164.00. The Master's estimate that the total amount which the complainant should receive annually from water rates and other minor revenues is the sum of \$136,697.35. Deducting from this amount the estimated annual expense of \$77,164, there will be left the sum of \$59,533.35 as complainant's net annual income on the value of its property. This sum is still in excess of the six per cent of the value of complainant's tangible property, the minimum fixed by the statute.

But there remains to be considered complainant's claim that the valuation of its property should include a valuation of its alleged water rights, which it values at \$1,000,000. The complainant introduced testimony tending to support this claim. It is contended by complainant that this testimony tended to show that complainant's predecessor had purchased and paid for certain interests the sum of \$112,000, and had by contracts made concessions in water rates amounting to \$341,595.67 to parties owning lands riparian to the San Joaquin River below complainant's point of diversion, upon a supposed waiver by such land owners of their riparian rights as against complainant's appropriation of water from the river. I shall not review this testimony. I have carefully read it all, and I agree with the Master that it does not support complainant's claim. It is contended, however, on the part of the complainant, that whether it paid anything for the right of appropriation or not the fact is

not conclusive of its value at the time of use, and I am of the opinion that it is not material to the controlling question
384 whether the water right is property which the complainant as a carrier is entitled to have valued as its property under the statute. The latter question is the one to be considered in this case. The Master found that the water right claimed by complainant was a valuable one, and under the testimony was of the approximate value of $1,000,000. But the Master did not find that this water right was property owned by the complainant, and rejected the claim. Complainant also contended that as it was the owner of the franchise to collect rates for the diversion and distribution of water to its customers, it was entitled to have this franchise valued as property. It was further contended by the complainant that it was a "going concern" and was entitled to have that fact considered in estimating the value of its property.

The Master's report upon this feature of the case is as follows:

"It will be noted that in enumerating the properties to be valued, no mention is made of the valuation of the water right, but the property to be valued is described as all property actually used and useful to the appropriation and furnishing of such water. I agree, however, with counsel that if such water right is property of the complainant, that the same could not be taken for public use without compensation; also that the value of the water-right in this case is a very valuable one, and under the testimony its valuation is approximately $1,000,000. Also I agree with counsel that a water right is property, and cannot be taken from the owner thereof for a public use without compensation. The question presented, however, is whether complainant is the owner of the waters that it delivers to its customers. All the cases cited by counsel for com-
385 plainant sustain the proposition that a water right is property and cannot be taken for a public use without compensation, but all of such cases, so far as my investigation of the same has shown, refer to the taking of the property from the user of the water; that is, the riparian owner who has acquired a right to the water by reason of appropriation or otherwise, and do not refer to the taking of the water by the public from a corporation or person who acts as and whose business is that of a distributor.

"Counsel in their argument state that there were no cases directly in point on this question. It seems to me however, that the case of San Diego, etc. v. National City, 74 Fed. 79, is in point."

The Master refers to the fact that the decision is by United States Circuit Judge Ross, and quotes from the opinion as to the water rights claimed in that case as follows:

"One of the objects of the present suit is to obtain a decree establishing the validity of that claim of the complainant to exact a sum of money in addition to an annual charge, as a condition on which alone the complainant will furnish consumers of water for irrigation purposes, other than those to whom it had furnished it for such purposes prior to December 18, 1892. And the contest that arose between the consumers and the company over this charge for a so-called water right, and the refusal of the municipal authorities of

National City to allow that charge in respect to acreage property within the city limits, is one of the principal causes of the present suit. It does not change the essence of the thing for which the complainant demands a sum of money to call it a water right, or to say, as it does, that the charge is imposed for the purpose of reimbursing complainant in part for the outlay to which it has
386 been subjected. It is demanding a sum of money for doing what the constitution and the laws of California authorized it to appropriate waters within its limits, conferred upon it the great power of eminent domain and the franchise to distribute and sell the water so appropriated, not only to those needing it for purposes of irrigation but also to the cities and towns and their inhabitants, within its flow, for which it was given the right to charge rates to be established by law, and nothing else. No authority can anywhere be found for any charge for the so-called 'water-right.' The State permitted the water in question to be appropriated for distribution and sale for purposes of irrigation, and for domestic and other beneficial uses, conferring upon the appropriator the great power mentioned and compensating it for its outlay by the fixed annual rates. The complainant was not obliged to avail itself of the offer of the State, but choosing, as it did, to accept the benefits conferred by the constitution and laws of California, it accepted them charged with the corresponding burden. Appropriating, as it did, the water in question for distribution and sale, it thereupon became, according to the express declaration of the constitution, charged with a public use."

'Whenever,' said the Supreme Court of California in McCrary v. Beaudry, 67 Cal. 120, 121; 7 Pac. 264, 'water is appropriated for distribution and sale, the public has a right to use it; that is, each member of the community by paying the rate fixed for supplying it, has a right to use a reasonable quantity of it in a reasonable manner. Water appropriated for distribution and sale is ipso facto devoted to public use, which is inconsistent with the right of the person so appropriating it to exercise the same control over it that he might have exercised if he had never appropriated it."

387 The Master proceeds as follows. "Counsel for complainant in their reply brief claim that the court in the National City case held that the board having fixed the rates that the company might charge for the furnishing of water, that the company sought to charge in addition to those rates a charge for the water right, that is, for the right of the consumer to get the water, but the court properly held that this was included in the rates fixed by the board; therefore they claim that the case is not in point. I do not find, in the opinion of the court, that, as claimed by counsel the court held that the value of the water right was included in the rates fixed. On the contrary, it seems to me the case directly decided that there can be no charge for the so-called water right. It seems to me to be very clear that if a company which has appropriated certain waters could not charge for a water right as a condition precedent before such water would be delivered to a consumer, such company would not have the right to have a valuation of such water

right added to the valuation of its properties used in distributing the water and the rates increased by such valuation of water rights. This would be doing indirectly that which they could not do directly. The principle involved seems to me to be that a distributor of water does not acquire any interest in the water itself, except for the purpose of distribution, and that, as stated by the court in the quotation aforesaid, its sole compensation is to be derived in the right to charge rates for such distribution. They are authorized under the law to appropriate water for this purpose, and to charge for such right is to charge for doing that which the constitution and the laws of California authorize them to do. As an illustration,
388 to show that the right of the company to the water as an appropriator does not give a right to the water itself, let us assume that the waters distributed by the complainant in this case should be required for a greater public use, for instance, the supplying of some municipality with water, and condemnation proceedings should be brought to obtain such water. It cannot be questioned that the right to such water is of great value to the farming community using the same, and that such users could not be deprived of such water without just compensation, and that such compensation might be the difference between the value of their lands with the water and without the water. But such damage would certainly be payable to the users and not to the canal company. It is true that the canal company might also be damaged by reason of the taking of such water and thus destroying their business, but such damage would not arise from the value of the water itself, but by reason of the loss of their franchise, which is their right to charge rates, as defined by the act.

"Counsel for complainant, in their brief, state that 'even if this value (the alleged value of the water right) should not be considered as a distinct item, eo nomine, it is evident that the value of complainant's franchise and business is increased to that extent by the existence of that right.' If complainant means by this that the value of its franchise is increased to the extent of the full value of its water rights, such a construction would be allowing them the very matter which it is decided that they are not entitled to. Under the recent decision of the United States Supreme Court, in the case of Wilcox v. Consolidated Gas Company, decided by the United States Supreme Court on January 4, 1909, it is decided that a
389 franchise is such property as should be valued in the matter of the fixing of rates, in that case a municipal gas corporation. Counsel for defendants state that the court decides in that case that a franchise shall not be included in valuing the plant. I do not read such decision to that effect, but on the contrary that a franchise is property and must be valued; and that complainant would be entitled to a valuation on its franchise, which under the act of California, providing for the regulation of rates, is described as its right to collect rates. No testimony has been offered in this case for the purpose of fixing such valuations. Counsel for complainant in their brief as to the items which should enter into their properties have made no claim that under the evidence they have established any

valuation for a franchise or for the good-will or a valuation as a going concern."

I agree with the Master in his interpretation of Judge Ross' decision. The latter said distinctly that "no authority can anywhere be found for any charge for the so-called water right." This was equivalent to saying that under the Constitution and laws of the State the water company, as a mere appropriator and carrier of water for distribution to consumers, had no such right.

The San Diego case was appealed to the Supreme Court of the United States, but that court did not find it necessary to pass upon this particular question. But in San Diego Flume Co. v. Souther, 104 Fed. 706, the Circuit Court of Appeals for this circuit, following the Supreme Court of California in the case of Irrigation Company v. Parke, 129 Cal. 437, 62 Pac. 87, held valid a contract exacting a sum of money in addition to the legally established rate for the so-called water right; and in the case of Souther v. San Diego
390 Flume Co., 112 Fed. 228, Judge Ross yielded to that decision; but in the subsequent case of Boise City Irr. & Land Co. v. Clarke, 131 Fed. 415, in the Circuit Court of Appeals, Judge Ross being then a member of the court and writing its opinion, adhered to his original opinion in the San Diego case in passing upon the validity of certain water right contracts. That case arose in the State of Idaho whose constitution provides, substantially as does the constitution of the State of California, that the use of the waters of the State appropriated for sale, rental, or distribution, is a public use and the right to collect compensation therefor a franchise, which cannot be exercised except by authority of, and in the manner, prescribed by law. The Constitution further authorizes the legislature to fix, as it had done, the maximum rates to be charged for waters sold. It was held by the Circuit Court of Appeals, Judge Ross speaking for the court and following his decision in the San Diego case and the case of Stanislaus County v. San Joaquin & Kings River Canal & Irr. Co., 192 U. S. 201, that an irrigation company appropriating water for sale under the statute had no authority to make private contracts for so-called perpetual water rights, and that such contracts were void. It appears that there was an inequality in these contracts, but their invalidity was not based upon that ground, but because, as in the San Diego case, they were contrary to the terms of the public use provided by the constitution and laws of the state. In the meantime the doctrine of the Parke case was somewhat modified by the Supreme Court of the state in the case of Crow v. San Joaquin and Kings River Canal and Irrigation Co., 130 Cal. 309, where it was held that a regulation of the company providing that "no land will be supplied with water unless all dues and
391 claims for previous supply on that land shall have been paid" was not binding upon the consumer. It was held that if the regulation could be considered a contract it was without consideration, and that it was the duty of the water company under the law in California to furnish the consumer with water upon a tender of the established rates, and that this rule precluded the idea that any

other duties could be prescribed or imposed except the tender of the rate as a condition for supplying water as required by law.

It may be said that the later case of Stanislaus Water Company v. Bachman, 152 Cal. 716, 93 Pac. 858, reaffirms the doctrine of the Parke Case, but there was some question in the Bachman case whether the water company was in private ownership and use at the time the constitution of the State was adopted, and whether the water right had become such a public use in the sense of that term as used in the constitution. But if it was conceded that the water right had become such a public use, the court was of the opinion that the constitutional provision was not intended to prevent a land owner from acquiring and attaching to his land a right to the permanent use of water for its irrigation. That is a different question from the one we are now considering. The question here is whether the constitution in declaring that the use of all water appropriated for sale, rental or distribution to be a public use attaches the water right to the land for which the water is appropriated. The Bachman case does not hold to the contrary, but however that may be, in the still later case of Leavitt v. Lassen, 157 Cal. 82, and Lassen Irrigation Co. v. Long, 157 Cal. 94, the Bachman case is left to be "construed in the light of the facts there presented." In view of this limitation, the Lassen cases become specially important and interesting.
392 They appear to clear up the question under consideration very materially, and as they present the very latest expression of the Supreme Court upon the subject they deserve to be carefully considered.

The plaintiff in the Leavitt case was the owner of an irrigation system which appropriated waters from Susan River for the purpose of sale, rental, and distribution, and it was also claimed that by means of the same canal and ditches the plaintiff had made a private appropriation of waters for use upon his individual lands. He sold the system, but in selling reserved to himself the prior and perpetual right to take from the system a sufficient quantity of water to irrigate his individual lands free of charge. The purchaser of the irrigation system refused to allow the plaintiff to take water under such reservation.

In the second case the Lassen Irrigation Company, as plaintiff, sued the defendant to recover the reasonable value of its service in furnishing water for the irrigation of defendant's lands. The defendant set up by way of cross-complaint a contract made with the plaintiff's predecessor in interest, under which he contended that he had a permanent preferential right to water sufficient to irrigate his lands. The court in denying the validity of these contracts, speaking through Mr. Justice Henshaw, said:

"Treating Leavitt's appropriation as being wholly and entirely for public use he, the owner of the system, was but an instrumentality for the distribution of the waters which he gathered, to such members of the public as might apply for them and pay to him the legal charge for the service that he rendered. As the agent of such a public use, he had no power whatsoever to reserve to himself for his private purposes any part of this water."

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Treating Leavitt as a private appropriator the court held
393 his so-called reservation invalid because it would reserve for himself an "undetermined quantity of water without regard to the amount he had been beneficially using."

The court said further:

"Waiving all minor objections, had Purser (the purchaser of the irrigation system) the power so to burden his public trust with this perpetual private right? Purser, it is to be remembered, held all of these waters as an appropriator for sale, rental, and distribution under the constitution of 1879. He was but the purveyor of this public use, the agent in the execution of this public trust. If, by any method however devious, there can be carved out of this public trust such a private right, it must obviously result in the destruction of the public use itself."

Again the court said:

"The right of an individual to a public use of water is in the nature of a public right possessed by reason of his status as a person of the class for whose benefit the water is appropriated or dedicated. All who enter the class may demand the use of the water, regardless of whether they have previously enjoyed it or not."

The theory that the carrier or distributor of water, the use of which is declared by law to be a public use, is but the purveyor of this public case, the agent in the execution of this public trust, has been adopted in the State of Colorado, where the Supreme Court of that state in Wheeler v. Northern Irr. Co., 10 Colo. 582, 17 Pac. 487, under a constitutional provision substantially the same as that of California, held that the carrier of water dedicated to the public use was "at least a quasi public servant or agent," that it was
394 "not in the attitude of a private individual contracting for the sale or use of his private property," and that it "exists largely for the benefit of others; being engaged in the business of transporting for hire water owned by the public to the people owning a right to its use," that "the carrier must be regarded as an intermediate agency existing for the purpose of aiding consumers in the exercise of their constitutional right, as well as a private enterprise prosecuted for the benefit of its owners."

In the later case of Wyatt v. Larimer, 18 Colo. 298, 33 Pac. 144, the same court said:

"We adhere to the doctrine that such a canal company (irrigation company) is not the appropriator of the water diverted by it, but that 'it must be regarded as an intermediate agency existing for the purpose of aiding consumers in the exercise of their constitutional right as well as a private enterprise prosecuted for the benefit of its owners.'" (Citing a number of Colorado cases.)

In Nebraska the irrigation act of 1895 attached the right to the use of the water for irrigation purposes to the land to be irrigated. In Farmers Irr. Dist. v. Frank, 72 Neb. 136, 100 N. W. 286, the Supreme Court of the state, referring to this statute, said:

"The doctrine of private ownership of water for irrigation purposes, disassociated from the land to which it is designated to be applied, has been proved by long experience to be detrimental to the

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public welfare. It has proved productive of endless controversies and abuses, and has given rise to interminable litigation. The other doctrine is that the right to the use of water should never be separated from the land to which it is to be applied."

The Court then quotes the following from the report of
395 Elwood Mead on Irrigation in California, United States Agricultural Department, 1901, page 38:

"Where this doctrine prevails, canals and ditches become, like railroads, great semi-public utilities, means of conveyance of a public commodity, their owners entitled to adequate compensation for services rendered, but having no ownership in the property distributed."

The Court, in further discussing the relation of the irrigation company to the water consumers for whose lands it has been allowed to appropriate the same, said:

"The law grants to corporations of this character valuable rights, but with these rights are accompanying duties to the landholders for the irrigation of whose land the rights are granted, and, if these obligations are not fulfilled, the law will interfere at the request of the party injured. The irrigation company does not own the water; it is only the servant of the public to carry it to the land for which it has been appropriated, and this service it is bound to perform.

In these cases the theory that the irrigation company is an intermediate agency in the execution of a public trust is necessarily based upon the doctrine that the right to appropriated water is attached to the land. The company cannot at the same time be principal and agent. It cannot own the water or the right to appropriate and sell it, and at the same time be the agent of the public in appropriating it for a public use. The logical relationship of such a company to its appropriated water is that of agent of the owner of the land in diverting and bringing the water to the land for which it has been appropriated. But it is immaterial whether the company is deemed to be the agent of the public in diverting and carrying the water owned by the public to the consumer
396 who owns the right to its beneficial use, or the agent of the consumer in diverting and carrying the water to his principal for a beneficial use. In either case, while the carrier is entitled to be paid for his services as a carrier a reasonable compensation under such regulations as the law may prescribe, he is not the owner of the water carried or the water right created by its diversion, and he cannot compel the consumer to purchase it, and to pay for its use, either in the way of an annual or other rate upon its supposed value as a property right.

One of the methods suggested by the complainant for estimating the value of its alleged water right was upon the basis that the value of the right to have water to irrigate land may be measured by the excess of the value of the land with such a right over that which it possessed without such a right, less the expense incurred by the land-owner and the canal company in introducing the irrigating system. By this method the following estimate was obtained: The

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value of the land without water was $855,312. To bring the land under irrigation the land owners had constructed lateral ditches costing $162,000, making a total of $1,017,312 as the investment of the land-owners. The complainant's irrigation works cost $1,042,940.05, making a combined expenditure on the part of the land owners and complainant of $2,060,252.05. The value of the land with water was estimated at $4,122,210; deducting from this amount the combined expenditure of $2,060,252.05, and we have as the value of the water upon the land the sum of $2,061,957.95. This sum divided in half would be $1,030,978.97 which would represent the increased value of the land upon the land-owner's investment, and also the increased value upon the canal owner's investment, that is to say, the sum of $1,030,978.97 for each; and
397 accordingly this sum is claimed by the complainant as the value of its water right. This method of working out a water right for the complainant and fixing its value is plausible, but not sound. It assumes that the irrigation company has obtained a partnership interest in the land irrigated, when none has been secured by contract or provided for by law. As well might a railroad company in estimating the value of its property for rates purposes add to the value of its railroad property the valuation for a share or interest in the increased value of the land through which the railroad has been built, and to the owners of which it distributes merchandise as a carrier. This method of valuation of a water right discloses, however, its real basis and character; to be of substance and value it must be attached to the land and be a part and parcel of that interest. What Mr. Justice Henshaw said in the Leavitt case with respect to a private right of service from the carrier is equally applicable to such a water right:

"If by any method however devious, there can be carved out of this public trust such a private right, it must obviously result in the destruction of the public use itself."

This theory of the relation of the carrier to the water right as an intermediate agent is in accord with the law of beneficial use prevailing in all the Western States where the right of appropriation is derived from the Act of Congress of July 26, 1866, (14 Stat. 251), and is there limited to some useful or beneficial purpose. As said by Mr. Justice Field in Atchison v. Peterson, 20 Wall. 514:

"The right to water by appropriation is limited in every case in quantity and quality by the uses for which the appropriation is made."

This was said with respect to the use of water for mining purposes, but in the subsequent case of Basey v. Gallagher, 20 Wall., 682, the court held that the views and rulings made in the
398 case of Atchison v. Peterson, "are equally applicable to the use of water on the public lands for the purposes of irrigation."

To the same effect is the Desert Land Act of March 3, 1877, (19 Stat. 377), where it is provided that the right to the use of water on desert land "shall not exceed the amount of water actually ap-

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propriated and necessarily used for the purpose of irrigation and reclamation."

The Civil Code of California provides in section 1411, with respect to water rights acquired by appropriation:

"The appropriation must be for some useful or beneficial purpose, and when the appropriator or his successor in interest ceases to use it for such a purpose, the right ceases."

Section 8 of the Act of Congress, approved June 17, 1902, (32 Stat. 388), commonly called the Irrigation Act, provides that:

"The right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis and measure and limit of the right."

The same provision has been incorporated into the laws of most of the western states, not, however, as new legislation, but as the established definition of a water right under the acts of Congress and the constitutional provision of the states declaring that the use of appropriated water is a public use. The right of diversion is accordingly limited to the beneficial use made by the consumer. Anderson v. Bassman, 140 Fed. 14. Wiel on Water Rights in the Western States, (3rd ed.), Section 478.

The complainant in this case claims to have acquired by prescription against all riparian owners and by appropriation against the world, the right to divert from the San Joaquin River the quantity of water which the evidence shows it has diverted into
399 and through its canals for more than five years, to-wit 1,350 cubic feet of water per second. The claim, as stated, is manifestly not sufficient to state a right of diversion. It must appear further that the complainant is either the owner of land for which the water is being appropriated for a beneficial use, or that the water is being diverted for the purpose of being carried by the complainant to consumers who own land for which the water is being appropriated for a beneficial use, and that the water is being so used. The complainant in this case is not the owner of any land for which the water is being appropriated. The complainant's right to divert the water of the river is, therefore, based upon and is measured and limited by the beneficial use of certain consumers for which the water is being appropriated. But if the amount required by these consumers for a beneficial use is not 1,350 cubic feet of water per second, then complainant has no right to divert that quantity of water; or if, for example, these consumers require only 100 cubic feet per second for beneficial use, then that would be the basis and measure and limit of complainant's right to divert water from the river, and not the capacity of complainant's headworks, canals, and ditches used in making such diversion. The water right must, therefore, be the right of the consumer and attached to his land, and not the right of the complainant attached to its canal system. It follows that under the law of this State it cannot be valued as a property right upon which the complainant is entitled to an income from the water rate to be paid by the consumer. I do not overlook the fact that the right of the carrier to divert water from a running stream has been recognized in this State in some in-

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stances as a water right vested in the carrier, and that valuations of such supposed rights have been admitted by the consumers, but the consumers have not admitted that right in this case, and
400 as I do not find it established by law, and the evidence is not sufficient to make it a law growing out of custom, I conclude that it is not a right that complainant is entitled to have valued as its property right in this case.

The complainant contends further that it is entitled to a valuation upon its "franchise" and upon the value of its plant as a "going concern", but the valuation claimed is based upon the value of its supposed water right, which, as has already been determined, is not a property right belonging to the complainant, and cannot, therefore, be so considered in any estimate of complainant's property either as a "franchise" or as the business of a "going concern."

I think that under the law of this state and the authority of Willcox v. Consolidated Gas Company, 212 U. S. 19, the complainant is entitled to have its franchise valued by the Boards of Supervisors of the counties of Stanislaus, Merced and Fresno, as part of complainant's property, used and useful in the appropriation and distribution of water to the inhabitants of those counties. But there is no evidence before the court upon which such a valuation can be made in this case, nor is there evidence upon which the court can value complainant's property as a "going concern." It follows that as complainant's net income is in excess of six per cent (the minimum fixed by the statute) on the estimated value of complainant's property, used and useful in the business in which it is employed, the complainant has no cause of action and the bill must be dismissed.

The temporary injunction heretofore issued in this case is dissolved, and the bill dismissed.

Endorsed: No. 14,554. In the United States Circuit Court, Ninth Judicial Circuit, Northern District of California. San Joaquin & K. R. Canal and Irr. Co., Incorporated, Complainant, vs. County of Stanislaus et al., Defendants. Opinion. Filed Sep. 18, 1911. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

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401 In Circuit Court of the United States, Ninth Judicial Circuit, Northern District of California.

Before E. H. Heacock, Esq., Standing Master in Chancery.

No. 14554.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, Complainant,

vs.

THE COUNTY OF STANISLAUS, in the State of California; THE BOARD of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting the said Board of Supervisors of said County of Stanislaus; the County of Merced, in the State of California; the Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James H. Haley, the Members of and Constituting the said Board of Supervisors of Merced County; and the County of Fresno, in the State of California; the Board of Supervisors of said County of Fresno, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris. Jorgensen, the Members of and Constituting said Board of Supervisors of said County of Fresno, Defendants.

Testimony Taken and Proceedings Had Before E. H. Heacock, Esq., Standing Master in Chancery of said Court under Order of Reference Filed and Entered in said Cause August 19, 1908.

Be it remembered, that on the 12th day of October, 1908, and on the several days thereafter, to which this examination was regularly adjourned, as hereinafter set forth, at my office, Room 214, in the United States Post Office and Court building, corner of Sev-
402 enth and Mission Streets in the City and County of San Francisco, State of California, before me, E. H. Heacock, Standing Master in Chancery, in the Circuit Court of the United States for the Ninth Judicial Circuit and Northern District of California, personally appeared the several witnesses whose names are hereinafter set forth and who were produced and examined on behalf of the respective parties to the above entitled cause.

E. F. Treadwell, Esq., appeared as Solicitor on behalf of complainant, who was also represented of record by Frank H. Short, Esq., Garrett W. McEnerney, Esq., and W. B. Treadwell, Esq.

M. F. McCormick, Esq., and H. F. Shafer, Esq., appeared as solicitors for the counties of Fresno and Merced; and M. J. Maddux, Esq., and J. P. Langhorne, Esq., appeared as solicitors for the County of Stanislaus.

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The following proceedings were had:

It is stipulated that the testimony and proceedings may be taken in shorthand by Brainard C. Brown and by him transcribed into typewriting.

Mr. McCormick: I will state that as far as the counties of Fresno and Merced are concerned, in the absence of myself and other representatives of those counties, Mr. Langhorne may appear for us; and that any testimony given on behalf of one county shall be for the benefit of all the counties, and any exceptions taken on behalf of one shall also be for the advantage of all.

The Master: That is also understood by you, Mr. Treadwell?

Mr. Treadwell: Yes sir.

Mr. Langhorne: I appear for Stanislaus County. I have
403 not made any formal appearance yet, having just been employed for them. That is, I appear for Stanislaus county and the supervisors; and also, in the absence of the attorneys for Fresno and Merced, I will appear for them.

Mr. Treadwell: In view of the fact that Mr. Maddux has not actually appeared this morning, and there is no formal substitution of record in any way, we file notice of taking of testimony this morning and admission of service.

(It is stipulated between the respective parties that the testimony and proceedings taken before the Master may be taken down in shorthand by Brainard C. Brown, and by him put in typewriting.)

Mr. Treadwell: I will state to your Honor, that in view of the fact that this matter is referred to you to report on the issues as well as to report the testimony, it might be well to state the issues in the case at this time.

The Master: Recognizing that it was before me, as Master, to report on the issues, I have read all the papers in the case, including Judge Morrow's decision. I would be glad to have counsel state specifically the points at issue.

Mr. Treadwell: What I was going to state was this: That the answer of the county of Stanislaus and its supervisors is a very full answer, and, in accordance with the rules in equity it admits or denies the allegations. The answer of the other defendants, appearing together has not gone into such detail, and a great many allegations of the bill which, of course, are not intended to be denied. are not expressly admitted. Of course, it is intended by counsel, undoubtedly, to admit whatever is expressly admitted in the Stanislaus answer. Mr. Langhorne and I might go over those that
404 are admitted in the Stanislaus answer, and if he will expressly admit them now, it will save the necessity of further proof on points that are not denied.

Mr. Langhorne: We may want to amend this answer. Of course the answer is here. I would not like to make any farther admissions than the answer has made, and I reserve the right to amend the answer.

Mr. Treadwell: With that reservation of your right to amend,

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will you admit, for the present, on behalf of the counties of Fresno and Merced, that any allegations that are expressly admitted in the Stanislaus county answer may be deemed to be admitted on behalf of the other defendants?

Mr. LANGHORNE: I prefer Mr. McCormick to answer that. I would not be inclined to do it. I would prefer to let the pleadings stand as they are. I do not understand that counsel can add to or detract anything from the pleadings.

Mr. TREADWELL: That will necessitate our proving the facts which are not expressly admitted, and which the other defendants undoubtedly intended to admit; for instance, take paragraph second; which alleges:

That the defendants, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon and John Dunn are, and have been ever since, and prior to the 1st day of April, 1907, the members of and constituting the Board of Supervisors of the County of Stanislaus of the State of California, and each of them is a citizen of the State of California and resides in said county of Stanislaus, and in the northern district of California.

Mr. LANGHORNE: That has been admitted in the Stanislaus answer?

Mr. TREADWELL: Yes. Now I ask that the Merced county defendants, and the Fresno county defendants, admit that in their answer.

Mr. MCCORMICK: There will be no dispute as to that.

Mr. TREADWELL: That may stand admitted. Now paragraph 3:

405 That the defendants, James R. Baxter, Henry Nelson, James H. Deane, George H. Whitworth and James W. Haley, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Merced, in the State of California, and each of them is a citizen of the State of California, and resides in said County of Merced and in the southern district of California.

Mr. MCCORMICK: That, of course, is not disputed, and is admitted as far as Merced and Fresno are concerned.

Mr. TREADWELL: Mr. Langhorne, there is no express admission in your answer that they are citizens of the State of California and reside in the county of Merced and in the southern district of California. You admit, that, do you?

Mr. LANGHORNE: I think there is, in paragraph three.

Mr. TREADWELL: Yes, that is right. It is admitted in your answer. Now paragraph four:

That the defendants, George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell and Chris Jorgensen, are, and have been ever since and prior to the first day of April, 1907, the members of and constituting the Board of Supervisors of the County of Fresno in the state of California, and each of them, is a citizen of the state of California, and resides in said County of Fresno and in the southern district of California.

That is likewise admitted in the Stainlaus county answer. Does not counsel admit it on behalf of Fresno and Merced?

Mr. McCORMICK: It is admitted.

Mr. TREADWELL: Paragraph 5 is as follows:

That the objects for which complainant was formed were the construction of canals in the State of California, leading from the San Joaquin and Kings Rivers, and their tributaries, also from Tulare Lake and streams flowing thereinto, and other waters, for the transportation of passengers and freights, and for the purpose of irrigation and water power, and for the conveyance of water for mining and manufacturing purposes, also, the supplying of cities and towns in the State of California, and the inhabitants of such cities and towns with pure and fresh water, and also the buying and selling of real estate.

That is admitted, is it, Mr. McCormick? It is admitted by Stanislaus.

Mr. McCORMICK: Yes, that is admitted by Fresno and Merced.

406 Mr. TREADWELL: Now the sixth paragraph is admitted by all three of the defendants expressly. The seventh paragraph is as to the value, and is in issue. The eighth paragraph is as to the value of the water rights, and is substantially in issue. We will not ask an admission on that. The ninth paragraph is as follows:

That the greatest area for the irrigation of which this complainant or its said precedessor has ever furnished or been called upon to furnish water in said counties is 103,980 acres, divided as follows: in said County of Fresno, 39,928 acres; in said County of Mercer, 52,379 acres, and in said County of Stanislaus, 11,673 Acres; and there is no reason to expect or believe that said acres or either of them will or can be increased for several years.

Down to the point of the statement of the acreage of Stanislaus County it is admitted by the Stanislaus County answer. Do you join issue or make the same admission on behalf of the other defendants?

Mr. McCBRMICK: We make no admission as to the acerage.

Mr. TREADWELL: Tenth. That is as to the cost of maintenance, and is in issue. The eleventh is as to loss by seepage and by evaporation, and is in issue. The twelfth is admitted by the Stanislaus answer, and is as follows:

That on the 14th day of June, 1905, and for more than thirty years next preceding that date, the canals, works, rights and property aforesaid were owned by and were the property of "The San Joaquin and Kings River Canal and Irrigation Company," which was a corporation formed, organized and existing under the laws of the State of California; and during all of said time, said last-named corporation was engaged in the business of appropriating the water aforesaid for irrigation, sale, rental, and distribution, and furnishing, selling and distributing the same for hire to the inhabitants of the said Counties of Fresno, Merced and Stanislaus, for irrigation and other purposes, but not to any city or town or the inhabitants thereof; and, for that purpose, it used and employed all of the

canals, works, rights, and property aforesaid, and all of the same were useful for that purpose.

That is admitted by the County of Stanislaus.

Mr. McCORMICK: Yes, we admit that.

Mr. TREADWELL: The thirteenth paragraph. There is no
407 admission on this. It is as follows:

That, on the 12th day of March, 1885, the legislature of the State of California passed an act entitled "An Act to regulate and control the sale, rental, and distribution of appropriated water in this State, other than in any city, city and county, or town therein, and to secure the rights of way for the conveyance of such water to the places of use"; and each and all of the acts and proceedings had and taken by the defendants, or either or any of them, and herein alleged, were had and taken by them and each of them under the assumed authority of, and in pretended compliance with, the aforesaid act of the legislature of the State of California.

I suppose counsel treated that more as a question of law, but I suppose it will be admitted as a matter of fact, that that is the justification.

Mr. McCORMICK: That was the act under which they proceeded, so far as Fresno and Merced were concerned.

Mr. TREADWELL: Is there any objection to that, Mr. Langhorne, so far as you can see?

Mr. LANGHORNE: There is an admission and an allegation, both, in the answer of Stanislaus County, which will obviate that. And as I said at the beginning, I reserve the right, if I deem proper, to ask to amend the answer; so I do not want to make any admission at this time.

Mr. TREADWELL: Then we will leave that stand as it is.

Mr. McCORMICK: It is understood that the admission is that the Boards of Supervisors of those counties proceeded under the act of March 12, 1885.

Mr. TREADWELL: If there is any question as to the form of that, we will not ask for any admission as to paragraph 13. Paragraph 14, is admitted by the Stanislaus County answer as follows:

That on or about the 10th day of March, 1906, there was filed in the office of the Board of Supervisors of the said County of Stanislaus a petition signed by twenty-five persons claiming to be inhabitants and taxpayers of the said County of Stanislaus, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation, "The
408 San Joaquin and Kings River Canal and Irrigation Company," for the sale, rental and distribution of said water to the inhabitants of the said County of Stanislaus.

That is admitted, I believe?

Mr. McCORMICK: Yes.

Mr. TREADWELL: Fifteen. That is admitted by the Stanislaus answer.

That on the 24th day of June, 1896, said petition came on to be heard before the said Board of Supervisors of the said County of Stanislaus; and the said board proceeded to, and did, in pretended

compliance with the said act of the legislature, estimate the value of the canals, ditches and all other property actually used and useful to the appropriation and furnishing of said water belonging to and possessed by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," at the sum of $337,000."

Down to that point it is admitted by Stanislaus County in its answer, and I believe it is admitted by you?

Mr. LANGHORNE: Your honor understands that I do not admit anything as stated by counsel. As I understand it, what he is doing now is simply bringing before your Honor what he claims is admitted by the pleadings. If our answer admits it, of course it is admitted; but I am not going any farther than this answer.

The MASTER: I understand that counsel for complainant is trying to abbreviate, as far as practicable, the record in the proceedings before the master.

Mr. MCCORMICK: Well, Mr. Treadwell, we will admit that these proceedings as alleged here were had before the several boards of supervisors, and that the orders were made as are alleged in the complaint here.

Mr. TREADWELL: Yes, but whether that was an actual compliance or a pretended compliance, you do not admit. I was going to say, Mr. McCormick, that all I ask of you is that you admit it in the same language that is contained in the answer by the County of Stanislaus, which is as follows:

409 That, on or about the 10th day of March, 1896, there was filed in the office of the Board of Supervisors of the said County of Stanislaus a petition signed by twenty-five persons claiming to be inhabitants and taxpayers of the said County of Stanislaus, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for the sale, rental, and distribution of said water to the inhabitants of the said County of Stanislaus.

That has already been admitted. That is No. 14 in the bill of complaint. Then No. 15:

That on the 24th day of June, 1896, said petition came on to be heard before the said Board of Supervisors of the said County of Stanislaus; and the said Board proceeded to, and did, in pretended compliance with the said act of the legislature, estimate the value of the canals, ditches, and all other property actually used and useful to the appropriation and furnishing of said water belonging to and possessed by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," at the sum of $337,000.

That is the admission, as Mr. McCormick states; simply that they did act; not whether it was in pretended compliance or not. Then the fifteenth paragraph proceeds:

Which sum was then, and at all times since has been, very much less than the actual value of said property.

That, of course, is in issue. Then paragraph 16:

That, at the same time, the said board estimated the annual reasonable expenses of the said last-named corporation, including

the cost of repairs, management and operating said works, to be the sum of $22,000.

That is admitted by the Stanislaus County answer, and I understand counsel to admit it?

Mr. McCORMICK: Yes.

Mr. TREADWELL: The allegation then proceeds:

But the said annual reasonable expenses of the said last-named corporation and of this complainant have ever since exceeded that sum, and did, during the eight years next succeeding said hearing, amount on the average to $29,305.60.

That is not admitted, and is in issue. Paragraph 17:

That at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Stanislaus did fix the following rates to be thereafter charged by said corpora-
410 tion, "The San Joaquin and Kings River Canal and Irrigation Company," to the inhabitants of said County of Stanislaus; namely: For irrigating alfalfa, all perennial grasses, and all cerials, $1.50 per acre per annum; for irrigating trees and vines, $2.00 per acre per annum; for irrigating gardens, $3.50 per acre per annum; for water for sheep hogs or goats, $6.00 per thousand per month, and at the same rate per month for a less number; for water for horses, cattle, mules and other live stock, $25.00 per thousand per month, and at the same rate for a less number.

That is admitted by Stanislaus County.

Mr. McCORMICK: It will also be admitted by Fresno and Merced.

Mr. TREADWELL: The 18th paragraph is as to the reasonableness of those rates, and is in isue.—is not admitted. The nineteenth paragraph is admitted by Stanislaus County. It is as follows.

That on or about the 18th day of May, 1904, there was filed in the office of the Board of Supervisors of the said County of Merced a petition signed by one hundred and forty-one persons claiming to be inhabitants and taxpayers of said County of Merced, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for the sale rental, and distribution of said water to the inhabitants of the said County of Merced."

That is likewise admitted, Mr. McCormick?

Mr. McCORMICK: Yes.

Mr. TREADWELL: Paragraph 20 is at least partially in issue. Paragraph 21, that will be the same. Paragraph 22:

That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Merced did fix the following rate to be thereafter charged by the said last-named corporation to the inhabitants of the said County of Merced, namely: $1.08 per acre per annum for each and every kind of irrigation.

Mr. McCORMICK: That is admitted.

Mr. TREADWELL: The 23rd is likewise admitted by Stanislaus County, as follows:

That, on or about the 27th day of May, 1904, there was filed in the office of the Board of Supervisors of the said County of Fresno a petition signed by sixty persons claiming to be
411 inhabitants and taxpayers of said County of Fresno, wherein said Board of Supervisors was petitioned to regulate and control the rates of compensation to be collected by the said last-named corporation for the sale, rental and distribution of said water to the inhabitants of said county of Fresno.

Mr. McCORMICK: I think that is admitted by the answer.

Mr. TREADWELL: Paragraph 24. As to that, it is partially admitted but we will not attempt to get any farther admissions. We will have to introduce the ordinance. Paragraph 25 will likewise be covered by the ordinance. Paragraph 26:

That, at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said County of Fresno did fix the following rate to be thereafter charged by the said last-named corporation to the inhabitants of the said County of Fresno, namely; 62½ cents per acre per annum for each and every kind of irrigation.

That is likewise admitted?

Mr. McCORMICK: Yes.

Mr. TREADWELL: Paragraph 27:

That the irrigation of alfalfa, perennial grasses, and cereals constituted at least 96/100 of all the business of said last-named corporation, and constitutes at least 96/100 of all the business of the complainant; and the furnishing of water by the said last-named corporation, and by complainant, for purposes other than irrigation, constitutes not more than 3/100 of said business.

That is likewise admitted by Stanislaus County, and I suppose will be by the other defendants?

Mr. McCORMICK: Yes.

Mr. TREADWELL: Paragraph 28 is about the reasonableness of the rates, and is in issue. It is not admitted. Paragraph 29 is admitted by Stanislaus County and is as follows:

That thereafter, on the 14th day of June, 1905, the said corporation, "The San Joaquin and Kings River Canal and Irrigation Company," for a valuable consideration, conveyed and transferred to this complainant all of the canals, works, and property aforesaid, and all of the water appropriated by said last-named corporation, and all its right to appropriate water, and all of its property and business, and this complainant, in consideration thereof, assumed all the obligations and liabilities of said last-named corporation; and said last-named corporation then ceased to conduct said
412 business, and has never since conducted the same; and this complainant then became, ever since has been, and now is, the successor of said last-named corporation, and has solely conducted and is conducting the business aforesaid.

That will be admitted.

Mr. McCORMICK: It will.

Mr. TREADWELL: The 30th is likewise admitted by Stanislaus County, as follows:

That thereafter, on the first day of April, 1907, the complainant filed in the office of the Board of Supervisors of said County of Stanislaus its written petition, praying that said board should proceed anew to fix and establish the water rates for complainant in said County of Stanislaus in the same manner as if such rates had not been previously established.

Mr. MCCORMICK: That is admitted.

Mr. TREADWELL: Paragraph 31:

That thereupon the Clerk of said board did immediately cause said petition, together with a notice of the time and place of the hearing thereof, to be published, and the same was published, in a newspaper, published in said county of Stanislaus, for four weeks next before the hearing of said petition by said board; which notice specified, for the hearing of said petition, the 14th day of May, 1907, which was a day of the then next regular term of the session of said board, and which was more than thirty days after the first publication of said petition and notice.

That is admitted, excepting that in your answer on page 33, you say: "Which was more than thirty days after the thirty days fixed by the said petition and notice of the hearing of said petition and notice." Of course that is not true. That is merely a clerical error. At any rate, that allegation is admitted.

Mr. MCCORMICK: Yes.

Mr. TREADWELL: Paragraph 32:

That thereafter, on the said 14th day of May, 1907, the said petition came on regularly to be heard before said board; whereupon said board, after partially hearing the same, continued the said hearing from time to time until the 25th day of June, 1907, on which date said hearing was completed.

That is admitted by Stanislaus county.

Mr. MCCORMICK: That is likewise admitted by us.

413 Mr. TREADWELL: Paragraph 33:

That thereupon, on said 25th day of June, 1907, the said Board of Supervisors of said county of Stanislaus proceeded to and did, in assumed compliance with said act of the legislature, estimate the value of the canals, ditches, flumes and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of said County of Stanislaus to be the sum of $335,456.32.

I think we had better introduce the ordinance on that, because there might be some difference as to the meaning. Paragraph 34, we will also introduce the ordinance as to that. Paragraph 35 is admitted by Stanislaus and Merced but not by Fresno. It is as follows:

That at the same time, and after making the estimates aforesaid, and in and by the same order in which said estimates were made, the said Board of Supervisors of the said county of Stanislaus did fix the following as the maximum rate to be, from and after the first day of July, 1907, charged by this complainant to the inhabitants

of said county of Stanislaus, namely: one dollar and fifty cents ($1.50) per acre per annum for each and every kind of irrigation; which order, and the rate assumed to be fixed thereby, have never since been altered or repealed by the Board of Supervisors of said county of Stanislaus.

Mr. McCORMICK: That will be admitted.

Mr. TREADWELL: Paragraph 36 is as to the propriety of these ordinances, and is in issue—not admitted. Paragraph 37 is admitted by Stanislaus County and is as follows:

That, on the 27th day of April, 1907, the complainant filed in the office of the Board of Supervisors of said county of Merced its written petition, praying that said board should proceed anew to fix and establish the water rates for complainant in said county of Merced in the same manner as if such rates had not been previously established.

That is admitted?

Mr. McCORMICK: Yes.

Mr. TREADWELL: Paragraph 38 is also admitted by Stanislaus county, and is as follows:

That thereupon the Clerk of said board did immediately cause said petition, together with a notice of the time and place of the hearing thereof, to be published, and the same was published in a newspaper published in said county of Merced, for four weeks next before the hearing of said petition by said board; 414 which notice specified, for the hearing of said petition the 7th day of May, 1907, which was a day of the then next regular term of the session of the said board, and which was more than thirty days after the publication of said petition and notice.

That is admitted?

Mr. McCORMICK: We will admit that.

Mr. TREADWELL: Paragraph 39 is admitted by Stanislaus and Merced but not by Fresno. It is as follows:

That thereafter, on the said 7th day of May, 1907, the said petition came on regularly to be heard before said board, and the same was so heard; and thereupon, on the said 7th day of May, 1907, the said Board of Supervisors of said county of Merced proceeded to and did, in assumed compliance with said act of the legislature, estimate the value of the canals, ditches, flumes, and all other property actually used by complainant and useful to the appropriation and furnishing of its appropriated water to the inhabitants of the said county of Merced to be the sum of $750,000.

That is admitted to the extent that it did that; not in "assumed compliance" but "in compliance."

Mr. McCORMICK: The admission will be the same on behalf of Fresno as of Merced.

Mr. LANGHORNE: There are a lot of denials about the investigation.

Mr. TREADWELL: That is not a denial, because we do not allege it. It admits the act of the board. If you want to set aside the acts of your own defendants, we will be glad to have you do it.

Paragraph 40. That is admitted by Stanislaus and Merced, and is as follows:

That, at the same time and by the same order, the said Board of Supervisors of the said County of Merced estimated the annual reasonable expenses of this complainant, including the cost of repairs, management, and operating said works, so far as relates to said county of Merced, to be the sum of $37,000.

Mr. McCORMICK: That is admitted.

Mr. TREADWELL: Paragraph 41 is also admitted by Stanislaus and Merced but not expressly by Fresno. It is as follows:

415 That, at the same time, and after making the estimates aforesaid and by the same order in which said estimates were made, the said Board of Supervisors of the said county of Merced did fix the following as the maximum rate to be, from and after the first day of July, 1907, charged by this complainant to the inhabitants of said county of Merced, namely: one dollar and sixty-five cents ($1.65) per acre per annum for each and every kind of irrigation; which order, and the rate assumed to be fixed thereby, have never been since altered or repealed by the Board of Supervisors of said county of Merced.

Mr. McCORMICK: That is admitted.

Mr. TREADWELL: Paragraph 42 relates to the justness of these rates, and is in issue; not admitted. Paragraph 43 is admitted by Stanislaus county and is as follows:

That on the 3rd day of April, 1907, the complainant filed in the office of the Board of Supervisors of said county of Fresno its written petition praying that said board should proceed anew to fix and establish the water rates for complainant in said county of Fresno in the same manner as if such rates had not been previously established.

Mr. McCORMICK: That is correct.

Mr. TREADWELL: Paragraph 44 is admitted by Stanislaus county and is as follows:

That thereupon the Clerk of said board did immediately cause said petition, together with a notice of the time and place of the hearing thereof, to be published and the same was published, in a newspaper published in said county of Fresno, for four weeks next before the hearing of said petition by said board; which notice specified, for the hearing of said petition, the 10th day of May, 1907, which was a day of the then next regular term of the session of the said board, and which was more than thirty days after the first publication of said petition and notice.

Mr. McCORMICK: Admitted.

Mr. TREADWELL: Paragraph 45 is likewise admitted by Stanislaus county, and is as follows:

That thereafter, on the said 10th day of May, 1907, the said petition came on regularly to be heard before said board; whereupon said board after hearing the same, took the said matter under advisement until the 16th day of May, 1907.

Mr. McCORMICK: Admitted.

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Mr. TREADWELL: Paragraph 46 is admitted by all three counties. Paragraph 47 is admitted by all three counties. Paragraph
416 48 is admitted by all three counties.

Mr. LANGHORNE: The answer of the county of Stanislaus sets up that the Board of Fresno county accepted the complainant's valuation without any investigation.

Mr. TREADWELL: Paragraph 48 also rests on the admissions of the answers of the three defendants. Paragraph 49 is as to the justness of the rate. It is in issue; not admitted. Paragraph 50 is on the same subject, is in issue, and not admitted. Paragraph 51 is as to the current rate of interest. It is partially admitted, but we had better introduce evidence on that. We will not ask for any further admissions. On paragraph 52 we will not ask for any further admissions. The same with regard to 53 and 54. Paragraph 55 is admitted by Stanislaus County. It is as follows:

That the matter in dispute herein exceeds, exclusive of interest and costs, the value of ($5,000) five thousand dollars.

Mr. McCORMICK: That is admitted.

Examination-in-chief of FRANK B. MARKS, called for complainant, sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Marks?
A. Dos Palos Colony.
Q. 2. What county?
A. In Fresno county, where I reside.
Q. 3. How long have you lived there?
A. I went there in 1903; 15 years.
Q. 4. What was your business?
A. At present, a dairyman; dairy farming.

Q. 5. During the 15 years, what has been your business?
417 A. I went there first as a partner with my father in the colony enterprise, the colonization business. I sold the most of the old settlers their homes there.

Q. 6. Your father had charge, did he, of the sale of that colony?
A. He had the entire charge during 1891, until about seven or eight years ago. He established the colony.

Q. 7. During that time have you become familiar with the property in Fresno county and also the property in the neighborhood of Dos Palos Colony and the value of it?

A. I think I may claim to be. I have lived there all the time, and have been in the real estate business for more than half of that period.

Q. 8. Do you know what property in those vicinities was bought and sold for?

A. Yes, sir.

Q. 9. Is the Dos Palos Colony that you have mentioned irrigated by the waters of the complainant's canal?

A. Yes.

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Q. 10. Are you familiar with the property, the lands there, which that canal passes, where it passes through Fresno county, as well as where it passes through the Dos Palos Colony?

A. Yes, sir; through the whole of Fresno county, and through a small part of Merced county.

Q. 11. Are you also familiar with the outside canal where it passes through Fresno county, as well as the main canal?

A. Yes, sir.

Q. 12. Will you state what in your judgment is the value, on an average, of the land traversed by the canal of the San Joaquin and Kings River Canal and Irrigation Co., in the neighborhood of the main canal where it passes through the county of Fresno?

A. That is, the parallel canal?

Q. 13. Yes, main and parallel. Per acre, I mean.

A. Well, at the head of the canal the land is first class. There is as good land there for the first four or five miles as there
418 is anywhere. It is worth $60 or $70 per acre. But after you get to the end of Merced county it runs through a very much poorer belt. It is probably not worth over $10. I would say it would average $15 to $20.

Q. 14. So that your estimate would be, on the value of that land, from the head of the Merced county line, was on an average of $15 to $20 per acre?

A. Yes, I think that would be a fair average.

Q. 15. Now, take the outside canal through the same territory, where it runs from the head to the Fresno county line. What on an average would be the value of that land?

A. I should place it about the same. That same country is traversed by both of those ditches.

Q. 16. Somewhere between $15 and $20 an acre?

A. Yes sir.

Q. 17. Now, you have also stated that you are familiar with the Dos Palos system. Take the land traversed by the canals of complainant, known as the Dos Palos canal and its branches, what is the value of that land per acre?

A. Well, *as* the head of th*at* canal where it comes out of the parallel canals, is the poorest strip of country. That goes through alkali land. That probably is not worth over $10 or $15 per acre for the first two or three miles. After that you strike the best body of land in the country. That land is worth and is sold for—has sold for years at from $60 to $100 per acre. The larger part of the distance, I should say that the whole thing was worth $70 an acre, as a fair average.

Q. 18. These questions that I have asked you relate to the present time. Were those values the same in 1907 and in 1906?

A. Oh yes.

Mr. LANGHORNE: I allow these leading question-, just to save time.

THE WITNESS: Why, I should say that those values were
419 true for five years back, at any rate; and with the exception of the $100 statement that I made, the others are true, for ten or twelve years back, because that is what the land has sold for.

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Q. 19. Are you familiar, Mr. Marks, with land in that vicinity which has no artificial irrigation?

A. The outside land?

Q. 20. Yes.

A. Yes sir.

Q. 21. What is the general character of the annual rainfall in that country?

A. I don't think that it averages more than six or seven inches, one year with another.

Q. 22. And without irrigation can crops be grown profitably on land in that vicinity?

A. No, sir. In the time that I have lived there I have seen every dry-farmer starved out of the country. When I went there the country south of the railroad, between there and the hills, was covered with grain farmers. There were about twenty men farming there, and had been since the country was thrown open to the United States. But today there is not a man there. Every last one of them has been starved out; and yet that land is as good as any that lies out of doors in California.

Q. 23. Taking land of that kind, without any irrigation, about how many crops do they cut off of it, or how many have they cut off of it in fifteen years?

A. Well, I have seen two crops harvested there, two full crops That is all; and two or three partial crops. The rest have been total failures.

Q. 24. Are you familiar with the prices at which that kind of land sells, land which has no means of artificial irrigation?

A. Well, I don't know that I am at the present time, unless it is the same as it has been in former years. It was selling for from $1.50 to $2.50 an acre. I have known land to change hands
420 there at that price.

Q. 25. And how long ago?

A. Not over four years ago.

Q. 26. Was that land good land if it was artificially irrigated?

A. Yes sir, if it could be covered with water it would sell today at $60 easily.

Q. 27. Have you any knowledge as to the difference between the rental of land which is susceptible to artificial irrigation and land of the same character which is not, in that vicinity?

A. The land of the Dos Palos Colony that is in alfalfa rents at about $10 per acre per annum. That outside land has practically no value at all. Once in two or three years there is sheep feed out there.

Q. 28. Do you know what it rents for?

A. No, I do not, but if it rents for 25 cents an acre, I should say that was big.

Q. 29. Taking the Dos Palos Colony and the other land under this canal that you have testified to, is farming on that land profitable?

A. In the Dos Palos, under the irrigation system?

Q. 30. Yes sir.

LOSE IN CENTER

A. Yes sir.

Q. 31. And has it been or not during the time you have known it?

A. It certainly has. A great many of the people that settled there were almost without means and yet a large proportion of them have at the present time paid off their debts on their homes. They are out of debt. The country has been very prosperous.

Mr. TREADWELL: I think that is all.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Marks, you say you were engaged with your father in the colonization business in regard to lands which are now under this Dos Palos Colony?

A. Yes sir.

X Q. 2. For several years?

A. Yes sir.

421 X Q. 3. That colonization scheme embraced a tract of land?

A. Yes sir, about twelve sections.

X Q. 4. To whom did that land belong?

A. Miller and Lux.

X Q. 5. And you were agents for Miller & Lux, were you?

A. Not at the present time.

X Q. 6. At that time?

A. At that time my father had a contract to buy the land. It was not an ordinary real estate contract.

X Q. 7. What is your present business, Mr. Marks?

A. I am a dairyman.

X Q. 8. Is your place under that colony?

A. Yes sir.

X Q. 9 Under the Dos Palos Colony?

A. Yes sir.

X Q 10. Do you rent from Miller & Lux, or do you own the land?

A. I own the land.

X Q. 11. You bought it from Miller & Lux?

A. Yes sir.

X Q. 12. What is the distance from the main canal of the Fresno Slough to the intake of the Dos Palos canal?

A. From the Fresno Slough?

X Q. 13. Yes sir, from the head works of this canal to the intake of the Dos Palos canal?

A. It is about ten miles, I guess.

X Q. 14. From the head of that canal, of the main canal, from the headworks at Fresno Slough to the intake, does it not run mainly over alkali land?

A. There is a portion of it that is first class land where it comes out of the river there.

X Q. 15. About what distance after it leaves the river?

A. Well, for a third of the way, perhaps; two or three miles.

X Q. 16. What is that land used for now?

A. I have not been up in that section for five or six years. I don't know.

X Q. 17. You don't know what it is used for?

A. No sir. It was used for grain the last time I was up there.

X Q. 18. You don't know what it was used for in 1907?

A. No, I don't know.

422 X Q. 19. You don't know whether it was pasture land in 1907?

A. I could not swear.

X Q. 20. You don't know then what it was used for?

A. Not at that time.

X Q. 21. You haven't seen it for about five years?

A. No sir.

X Q. 22. Now then, how about the balance of the land from the head works at Fresno Slough to the intake of the Dos Palos levee, for the other two-thirds of that distance?

A. That I call alkali land, valued at $10 or $15 per acre.

X Q. 23. Do you value alkali land at $10 or $15 per acre?

A. There is land right there alongside of the canal at the present time where the grass is knee-high and where they have thousands of head of cattle pastured right along the banks of the canal at the present time.

X Q. 24. That is because they have been flooding it with water, that grass grows alongside that canal?

A. Yes sir, it is swampy.

X Q. 25. It is swampy year after year?

A. Yes sir.

X Q. 26. That is grass land upon which Miller & Lux graze their cattle?

A. Well, partially. That is alkali land along the canal that has been reclaimed. And such land as that is worth more than $20 an acre.

X Q. 27. What was that alkali land worth before it was reclaimed, as you say?

A. Well, the question is if it could be reclaimed. It would not be worth over $5 an acre if it could not be reclaimed. But where it can be reclaimed, it has a prospective value, of course, that raises it.

X Q. 28. Then you consider that that land is now reclaimed, do you?

A. A portion of it is.

X Q. 29. How much?

A. Well, there is a strip there of three or four miles long, I should judge; a long strip that they are making preparations

423 to reclaim at the present time.

X Q. 30. So your figures then in regard to this alkali land are, you say, prospective figures? Do you know of any sales——

Mr. TREADWELL: Let him finish his answer.

A. Well, when I confine myself to the short strip of unreclaimed

land, that might be true, but that does not alter my average of the whole.

(By Mr. LANGHORNE:)

X Q. 31. What do you call a short strip? Can't you describe what you mean by "short strip?"

A. Well, I was thinking of the land next to the parallel canal, through the worst of the alkali.

X Q. 32. Well now, when you say "parallel canal," do you mean what is known as the outside canal?

A. No, I do not. That is not the parallel canal. That we call a double canal.

X Q. 33. How far apart are those canals?

A. About a mile, in that country.

(By Mr. TREADWELL:)

X Q. 34. The parallel and the main, you mean?

A. No, the parall and the outside. The parallel is the main canal.

Mr. TREADWELL: We call the old one the main, and the new one the parallel.

The WITNESS: We speak of that as the parallel canal on account of its being a double canal, the two being parallel and joined.

(By Mr. LANGHORNE:)

X Q. 35. I understood you to say, Mr. Marks, that this alkali land you have been speaking about is about one-third of the distance from the head of the canal to the intake of the Dos Palos canal. Is that right?

A. No, it is more than that.

X Q. 36. How much more is it? Is it half?

424 A. Yes, it is easily half.

X Q. 37. Easily half? Now, just show what you call the eastern half.

A. This is the eastern half of the distance between the Merced county line and the intake of the Dos Palos. (Showing.)

X Q. 38. My question was——

A. You see that canal commences at Fresno Slough.

X Q. 39. Mr. Marks, I understood you to say that this alkaline land that you spoke of was more than one-third of the land of the canal from the head of it at Fresno Slough to the intake of the Dos Palos canal. Is that right?

A. Yes sir. If you are speaking of this in here (showing) it is two-thirds.

X Q. 40. Then of the remaining one-third, what is the character of the land for that distance? Does the alkali land lie on the east end of the canal?

A. Yes, the east end of the canal is the head of the canal, and that comes out as the land goes west, right into alkali.

X Q. 41. Now, then, when did you last examine the land upon

which the canal is built, from the intake of the Dos Palos canal to the head of the canal?

A. It has probably been five years since I have been out there. The character of the land has not changed in that time.

X Q. 42. You have not been there for five years, have you?

A. No sir.

X Q. 43. Now then, from the intake of the Dos Palos canal, from the main canal to the Merced County line, what is the character of the land?

A. That is alkali, with the exception of a strip here that has been reclaimed. There is a portion of is there, the extreme western part, it is the western part of the reservation in Fresno county that has been reclaimed.

X Q. 44. How much?

A. I should say about half; a little less than half.

425 Q. 45. That is, on the land lying immediately under the main canal from the intake of the Dos Palos canal to the Merced line, you say that about one-half has been reclaimed?

A. Well, now I am not sure that I know where that county line crosses. I may have to change that. That county line runs closer to the road than I thought. I think I would say now that the land reclaimed is a quarter of the distance.

X Q. 46. Then the land reclaimed is a quarter of the distance from the intake of the Dos Palos canal to the Merced county line?

A. Yes sir.

X Q. 47. When did you last see the land through which the main canal runs from the intake of the Dos Palos canal to the Merced county line?

A. I saw this strip right in here about two weeks ago (showing). The extreme western part of it I saw two weeks ago. The eastern part I have not seen for two years.

X Q. 48. Well, the extreme western part that you refer to, how much of that did you see two weeks ago?

A. Well, it is quite a country. You can see it by driving along there.

X Q. 49. Did you drive along the line of the canal?

A. No sir; across it.

X Q. 50. You crossed the canal?

A. Yes sir.

X Q. 51. And you didn't go either up or down the canal at that point?

A. No sir, I did not.

X Q. 52. Then how would you be able to see what the character of the land there is along that canal, at this time, or two weeks ago, if you didn't go either up or down the canal?

A. Well, I can see for a long distance there. There were cattle crossing there and grazing on the land. Knowing the conditions that existed there in that reclaimed land, I formed that estimate.

X Q. 53. Now, in regard to what has been called the out-
426 side canal that runs through from near the head of the Fresno Slough to the Merced county line and approximately

parallel with the main canal and some distance south of it, when did you go along that outside canal last?

A. I have not been along there for about three years.

X Q. 54. And three years ago did you go along, entirely along that outside canal from the portion of it which I have mentioned?

A. Not entirely. I only covered part of it.

X Q. 55. Which part of it?

A. I covered a short distance in the western part.

X Q. 56. How much?

A. Well, a couple of miles. And on the eastern part, about four miles.

X Q. 57. Is your testimony as to the character of the land the same in regard to the land over which the outside canal runs, as your testimony in regard to the land over which the main canal runs?

A. I should say that the outside canal covered better land, a trifle.

X Q. 58. Is that not alkali along the outside canal?

A. There is some, but not so much.

X Q. 59. The outside canal is built at a higher elevation, is it not, than the main canal?

A. I believe it is.

X Q. 60. Well, you were on that canal, on the outside canal, were you not?

A. Yes sir.

X Q. 61. Were you not able to tell when you were on it that it was an higher elevation than the main canal?

A. Well, naturally, being closer to the foothills, I suppose it must be, and the ditches, the distributing ditches all run north toward the main canal.

X Q. 62. Have you lately purchased or sold for yourself or others—that is, since the year 1906—any lands lying along
427 the main canal or this outside canal?

A. No sir.

X Q. 63. Now the non-irrigated land along that canal in the county of Fresno, I understood you to say, is very poor?

A. It is not poor land, but without water it is barren.

X Q. 64. It is barren?

A. Yes, sir.

X Q. 65. So that the value of the land in your opinion depends entirely upon the ability to put water on it?

A. Not entirely, but largely.

X Q. 66. The rainfall, the average rainfall being about seven inches?

A. Yes, not more than that.

X Q. 67. Not over seven inches, and the crop that is raised without irrigation, or that was attempted to be raised without irrigation was barley and wheat?

A. Barley and wheat.

X Q. 68. And that those people who had been attempting to raise barley and wheat abandoned it?

A. Yes, sir.

X Q. 69. Now then, that being so, if you can imagine that that ditch was not there at all—you understand; that is, that the canals of the complainant in this case were not there at all in Fresno county, what in your opinion then would be the average value of the land now occupied by the ditch if the ditch was not there at all?

A. Well, it would not be worth any more than the land outside of the canal.

X Q. 70. And that would be worth about $1.50 an acre?

A. $2.50 possibly. That is, I am talking now of the main canal and the parallel canal; not of the Dos Palos system. That would be worth more, because that is nearer the river.

X Q. 71. In case there were no irrigating canals there at all owned by this water company, the complainant in this case, what would the land now occupied by the Dos Palos canal be worth?

A. Well, that would be worth very little, not over $10 I
428 presume.

X Q. 72. That land under the Dos Palos canal is mainly farmed by alfalfa, is it not?

A. Some trees, but mostly alfalfa.

X Q. 73. It is the land under that canal that was in this colonization scheme that you speak of?

A. Part of it, yes.

X Q. 74. And that land under that Dos Palos colony you now estimate at from $60 to $100 per acre?

A. Yes sir. And that is what land is actually changing hands at.

X Q. 75. Your dairy is in that section?

A. Yes sir.

X Q. 76. About how near the Merced county line?

A. Section 13, Township 11, south, range 12 east.

X Q. 77. Not very far from the town or settlement called Dos Palos?

A. South of Dos Palos, that you have your finger on.

Mr. LANGHORNE: That is all.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. You spoke about certain alkali land being reclaimed. How do you reclaim alkali land, Mr. Marks?

A. It is being reclaimed all over that locality by what they call "swamping", putting water on it and letting it stand there for the larger portion of the season, one year after another, until the alkali is leached out.

R. D. Q. 2. Then what happens?

A. Then land that produced nothing will produce wild grass in abundance. There are thousands of acres that have been reclaimed by Miller & Lux in that way.

R. D. Q. 3. And what value do you put on lands of that kind after they have been reclaimed?

A. That land ought to be worth $25 an acre.

R. D. Q. 4. So your estimate of the $15—$15 or $20 per acre, do you place that as your average, including that land?

A. Yes.

R. D. Q. 5. Including the land that has not been reclaimed?

A. Yes sir.

429 R. D. Q. 6. Now, is all, or what portion of that land that you have mentioned as alkali land, susceptible of being treated in that manner?

A. Over half of it.

R. D. Q. 7. In answering a question of Mr. Langhorne as to the value of certain lands there if there were no canal there, you stated that some of it was nearer the river and therefore would have a greater value. Would you consider then, in determining the value of it in cases of that kind, the fact whether water could be obtained?

A. Certainly.

R. D. Q. 8. And when you said in answer to Mr. Langhorne that without the canal the land would be of little value, that would depend also somewhat on the available sources of water, and whether there was any water that could be had or brought?

Mr. LANGHORNE: We object to that as leading.

The MASTER: I sustain the objection.

R. D. Q. 9. In determining the value of land, Mr. Marks, which was not under an established system of irrigation, do you consider or do you not the advisability of the land for the purposes or irrigation and the location of it in regard to water supplies?

A. I certainly do. You can't get along without water in such a country.

R. D. Q. 10. You say, as I understand it, that your father had a contract for the purchase of this land from Miller & Lux, which now forms the Dos Palos colony?

A. Yes sir.

R. D. Q. 11. And was he acting as an agent for Miller & Lux, or as an independent man?

A. Acting as an independent party in that respect. He contracted at a certain price for twelve sections of land and he resold it.

Mr. TREADWELL: I think that is all. Will it be agreed that all of this testimony may be written up without being signed by

430 the witnesses, or do you want them all to sign?

Mr. LANGHORNE: With this understanding, that if any dispute arises as to what the witnesses testified to, that the testimony may be submitted to the witness and corrected.

The MASTER: In case you cannot agree?

Mr. LANGHORNE: Yes, in case Mr. Brown himself is in doubt.

Mr. TREADWELL: Prior to the final submission?

Mr. LANGHORNE: Yes.

Examination-in-chief of JOHN Q. DRUMMOND, called for complainant; sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Drummond?
A. In Merced Co.
Q. 2. May I ask you how long you have lived there?
A. I have lived in Merced Co. since about 1889. I beg pardon. I have lived there longer than that. I want to correct that.
Q. 3. Go right ahead.
A. I moved my office down into Merced County in 1872, I think, but I previously lived in Fresno Co.
Q. 4. Are you familiar with the canals of the San Joaquin & Kings River Canal & Irrigation Co.?
A. In the neighborhood of the old canal I am quite familiar, and am somewhat familiar with the new canal.
Q. 5. Were you ever in the employ of the predecessor in interest of that company, the old San Joaquin and Kings River Canal & Irrigation Co.?
A. Yes sir.
Q. 6. During what years and in what capacity?
A. I began with them in 1871; about the first of June, 1871.
Q. 7. How long did you continue?
A. I think I was with them nearly 18 years. I think I left in 1889, and I had been off during the time one year—been
431 east. During the balance of that time I was with the company.
Q. 8. In what capacity were you employed, Mr. Drummond?
A. Up until 1878 I had been superintendent of construction. From that time up until I left there, left the company, I was superintendent.
Q. 9. What has been your business since that time, since 1889?
A. Well, I have been farming; in the dairying business, the stock business.
Q. 10. At the present time are you farming?
A. No, I am retired at present. I am still living on the farm.
Q. 11. You have not been employed, then, as I understand it, by the canal company since about 1889?
A. No, I may have done some construction work the next year for them, or cleaning out the canal for them after two or three months. I helped them some, but I have not been in their employ since except for a short time.
Q. 12. Are you familiar with the character of the land through which this canal runs through the County of Fresno and the County of Merced?
A. Yes; that is, I have been. The exact condition of them for the last two or three years I suppose perhaps I could not tell you.
Q. 13. Are you familiar with the value of that land, the prices it has sold for?
A. Yes.
Q. 14. Taking the land traversed by the canal from the head to

the Merced County line, what is the value of land through that stretch of country?

A. Of course the land varies some as to the quality, some of it being pretty good land, while others is not worth much.

Mr. LANGHORNE: We object to that question on the ground that it is not confined to the value of the land occupied by the
432 canal itself.

The MASTER: Is the object of the question to ascertain the value of the land that is actually occupied by the canal?

Mr. TREADWELL: And the right of way.

The MASTER: Then I think the question should be more specific, calling his attention to the particular land on which he is asked to place a value.

(By Mr. TREADWELL):

Q. 15. Referring to the land traversed by this canal and the land immediately adjacent to the canal itself where it passes through the County of Fresno, what is the value of that land?

A. Well, as I said before, the portion of it next the river where the canal comes out is better land than it is after you get down eight or ten miles. The land usually along streams here throws up more or less alluvium, and the land is better.

Q. 16. Well, taking it on an average and averaging the whole of that strip, how much would you say it was worth an acre?

A. The whole of it that is in Fresno County?

Q. 17. Yes, on the main canal.

A. If you take the whole of it, the biggest part of it is poor land, but some of it is good land.

Q. 18. Well, you can give the value, if you want, upon the poor and the good, and average it.

A. I would rather do it that way. Take it down to the eighth mile where it gets part of the water, there is better land and there is some valuable timber land, and land where they have been growing corn and beans, and part of it is in alfalfa, I consider that worth $30 an acre.

Q. 19. Now what character of land is there in that stretch, the balance of the land from the eighth mile down?

A. Beginning at the eighth mile, down to the Fresno
433 County line, I would not think it was worth over $10 an acre.

(By Mr. LANGHORNE):

Q. 20. I suppose you mean Merced County.

A. No, to Fresno, the Merced County line is a little more than 20 miles below the intake.

(By Mr. TREADWELL):

Q. 21. Now following the canal down from that point from the Merced County line, down to the vicinity of Camp 13, how does the land run there?

A. It is about the same nature of land, and even below Camp 13

until you get down about to 30 miles from the intake, the land is about the same quality from the Fresno line, and the land between Fresno to Merced, about 30 miles, is about the same character of land.

Q. 22. That is, the same as which? The same as the $10 land?

A. Yes sir.

Q. 23. About where do you place the thirtieth mile? How far below Camp 13?

A. Camp 13 is the 26th mile.

Q. 24. So this is about four miles below?

A. Four miles down.

Q. 25. Now after leaving the thirtieth-mile location and going on down to Volta, how does the value run?

A. It is a good belt of land; excellent.

Q. 26. And about how much is it worth an acre?

A. Well, I would say it was worth $100, unimproved.

Q. 27. And from Volta to San Luis Creek is there any change in there?

A. From Volta to San Luis Creek the land is generally poor, while there are some spurs of good land running across the canal. I am speaking of the old canal.

Q. 28. I understand. And about what is the value of that strip?

A. Well, take it as a whole, I would say $25.

Q. 29. Now from San Luis Creek down to the end of the canal in Stanislaus County, what was the value of that?

A. There was some more land a little below San Luis Creek, some two miles—some three miles—that is not first class land. It is the same kind of land that I have been speaking about. Spurs
434 of good land run across the canal, and between those ridges the land is very poor. Those ridges are good. And I would say you could extend it three miles below the San Luis Creek at the same rate, at the same price.

Q. 30. Something in the neighborhood of $25?

A. Yes.

Q. 31. But after that?

A. After that there is a bit of good land, all of it; all good land.

Q. 32. And worth about what per acre?

A. Well, I should say about $100. Lands in that vicinity are selling for that; poor land, unimproved land.

Q. 33. What is the relative value of the land, so far as you know it, traversed by the main canal, and that traversed by the outside canal?

A. It is selling at about the same price in my vicinity, right where I live. In fact, there has been none sold for some time, below the old canal, while there has been a good many transactions within the last two years between the two canals; and that land has been selling for that; poor land, unimproved land.
improved at $100, between the two canals, and some improved land at $225, where it is pretty well improved.

Q. 34. Now are you familiar with the farming done in that vicin-

ity, down in that vicinity, on land which is not artificially irrigated?

A. Somewhat; yes.

Q. 35. How is the rainfall in that vicinity?

A. The rainfall is short, though there is more rainfall at the lower end of the canal than there is at the headworks. There is quite a difference in rainfall. I had my office about the middle of the canal, at the central point, and I had a rain gauge there, and for ten years the average rainfall was 7.80.

435 Q. 36. And taking it during the years that you have been down there, can you grow profitable crops on land without artificial irrigation?

A. Not always. Some seasons we grow very good crops in the vicinity of where I live.

Q. 37. And on an average about how many years was there a good crop without irrigation?

A. Well, I think they don't average one good crop in three years, not what you could call a good crop.

Q. 38. And what is the value of land down there, of the same character of the land you have testified to, that is not irrigated, that cannot be irrigated?

A. From $20 to $30 an acre.

Q. 39. Are you comparing it now with the $100 land?

A. Yes, the same class of land.

Q. 40. That is, you mean that land that is worth $100 within the canal, would be worth $20 if it could not be irrigated?

A. $20 to $30. It depends somewhat on the locations. Where the stream comes down and overflows it makes land a little more valuable.

Q. 41. Now take this $10 and $15 land up in Fresno County, is there any land like that that is not susceptible of irrigation, further away, of the same character of land?

A. Yes.

Q. 42. And without water, what did that kind of land sell for?

A. I don't think it is changing hands.

Q. 43. There is not much demand for it?

A. I don't know of any recent sales up that way, though there may have been. I don't go up into Fresno County much since I left the canal.

Q. 44. Do you know what land there rents for that is not irrigated, cannot be irrigated?

A. I think ususally about 15 to 20 cents per acre, for the feed that grows on it. I had some land up in that vicinity, up near the Fresno line, some years ago. Some years I got 15 cents an acre and some years I could not rent it.

436 Mr. TREADWELL: I think that is all.

Cross examination.

By Mr. LANGHORNE:

X Q. 1. Where do you live? In which county?

A. I live in Merced county.

X Q. 2. About how near to this canal do you live?

A. The canal runs through my place.

X Q. 3. Through your place?

A. Yes, that is, the old canal.

X Q. 4. Then you live down somewhere near San Luis station?

A. No, further down the canal, about three miles down; Section 16 in that township.

X Q. 5. Now this canal for the most part is built on the contours of the hills?

A. Yes.

X Q. 6. It runs along the slopes of the hills?

A. Yes sir.

X Q. 7. And that is so, is it not, for some distance after it leaves the headgate? About how many miles after it leaves the headgate does it commence to go around the hills?

A. Oh, a long ways.

X Q. 8. Twenty miles?

A. After it gets out of the river bottom. In fact, this canal don't go nowhere near the hills. At the same time, where the streams come down, there is a rise and of course the canal is bound to get around those rises. Where the streams come down and the land rises, you have got to follow the level, you have to get towards the river and then come back. That makes a crooked canal, crooks in the canal.

X Q. 9. You own some land up near the head of the canal?

A. No.

X Q. 10. Pasture land?

A. No.

X Q. 11. I understand you to say that you rented some up there?

437 A. Oh no, I have some land near the line in Merced county. I had a half section there and I sold it some time ago.

X Q. 12. You ceased to be superintendent for the canal company in 1889?

A. 1889, yes.

X Q. 13. When were you last up at the head of the canal?

A. Oh perhaps two years ago. I go up occasionally.

X Q. 14. Were you there two years ago? Do you say you were there two years ago?

A. Three years ago, I guess. I have been up on the railroad several times since then but not up to the head of it, riding in the cars.

X Q. 15. When was the last time you went along the canal itself, up to the headworks?

A. Well it is probably ten or fifteen years since I drove along clear up. I have been up to Dos Palos Farm Colony occasionally and along the canal, but not going up to the headworks except by rail. I have been up there, it might be ten or fifteen years since I have been there; still, I have been at the headworks and looked at it.

X Q. 16. Have you personally been or made any trip or excursion

for any purpose along the course of that canal within the last five years?

A. Not clear to the head.

X Q. 17. Well, you live, you say, down here in Merced county?

A. Yes.

X Q. 18. Near the Stanislaus line, is it, where you live? How far from Stanislaus county?

A. Ten miles; eight miles.

X Q. 19. When was the last time you went around the course of the main canal?

A. I went along yesterday. I went along the day before, down as far as Newman.

X Q. 20. That is down, that is going West?

A. Yes.

X Q. 21. Now when was the last time you went along the canal itself, towards its head?

A. About two weeks.

X Q. 22. Did you go along the canal itself?

A. I went as far as Volta.

438 X Q. 23. Where is Volta? In Merced county?

Mr. TREADWELL: Yes.

(By Mr. LANGHORNE:)

X Q. 23½. Did you go along the canal itself?

A. I drove on the bank, yes.

X Q. 24. Along the bank?

A. Yes.

X Q. 25. As far as Volta? Then when have you been the last time along the canal from Volta up to towards the headworks?

A. Well it has been quite a while. I can't tell you.

X Q. 26. Any time——

—. Oh when I have been to Los Banos I don't ride all the way along the bank. I have business with people up above Los Banos; Mr. Wagner and other people that leads me up that way occasionally.

X Q. 27. Oh then you have been as far east as Los Banos? About what time did you take that Los Banos trip?

A. About a month ago.

X Q. 28. Now then, from Los Banos, up to the head of the canal, when were you last in that section—that is, along the canal itself?

A. Following the canal up?

X Q. 29. Yes.

A. It has been many years since I have followed the canal all the way. There was roads I could cross, you know. I have ridden up along the bank a good many times.

X Q. 30. In what county is Los Banos?

A. In Merced county.

X Q. 31. Then, as I understand it, from Los Banos to the head of the canal you have not been along the canal itself for a good many years?

A. No, I have not. I could not tell you just how long.

X Q. 32. Now the figures that you have given, Mr. Drummond,

about the values of the land along the canal have reference, do they not, to the land lying to the north of the canal that can be irrigated from it? Is that a fact?

A. Yes.

439 X Q. 33. Then as to the values, they do not hold good as to the land to the south of the canal that cannot be and is not irrigated from it?

A. No.

X Q. 34. And your figures given by yourself, in your opinion, are based upon the supposition that the land actually occupied by the bed of the canal itself, slopes, you understand?

A. Yes.

X Q. 35. And that it would be worth the figures you have given if it was farming land lying along the canal so that it could be irrigated?

A. I estimate the value of it according to the ordinary value of the adjacent land.

X Q. 36. And that is true of the land to the north of it?

A. Well not as to the old canal, because it is equally as valuable at one side of it as at the other.

X Q. 37. What land?

A. The old canal.

X Q. 38. That is, it would be between the outside canal and the old canal?

A. Yes, land is equally valuable on both sides.

X Q. 39. I understand. Now then, the land lying south of the outside canal that could not be irrigated from the outside canal, that is not as valuable as you have given?

A. No sir.

(At the hour of 12.05 p. m., recess was had until 2 p. m., at which time the cross examination of the witness was resumed as follows:)

X Q. 40. Mr. Drummond, on the theory that the complainant in this case had no canal or works at all for furnishing and distributing water, and that there was no means of irrigating the land by artificial irrigation, what in your opinion would be the value of the lands in Fresno county through which or over which the present canals of the complainant are built?

A. In Fresno County?

440 X Q. 41. Yes.

A. Well I should say from $2.50 to $20 an acre.

X Q. 42. How much of it are $2.50 an acre?

A. Well, those lands adjacent to the river that grow those grasses, they would be worth $20 an acre.

X Q. 43. And those extend along the canal from the head of the canal down the canal how far?

A. About 8 miles.

X Q. 44. Now then, in regard to the same lands in Merced County, on the theory that there was no irrigation, no canals and no irrigation, what would be the value of those lands?

A. Well, the same lands that we have been speaking of.

X Q. 45. No, I am now speaking of Merced County, along the line to Merced. Now I say, upon the same theory, that the complainant did not have any canals, you understand, and the land was not irrigated, and could not be irrigated, what would be the average value of the lands occupied by the complainant's canals in Merced county?

A. Well, down to the thirty mile it would be $2.50 to $5 an acre, I should judge.

X Q. 46. Then from the thirty mile on to the line of Stanislaus County it would be what?

A. Well part of the way it might be worth $20 an acre and part of the way ten.

X Q. 47. How many miles at $20 an acre?

A. About half of that distance, I should judge.

X Q. 48. And the other half ten?

A. Yes.

X Q. 49. Now then, in regard to lands occupied by the complainant's canal in Stanislaus County, suppose that there was no canal there and no way of irrigating those lands, what would they be worth?

A. They would be worth $15 to $20 an acre, and perhaps some of them $25 in favorite places, where the water overflowed occasionally.

X Q. 51. Now is that your opinion as to the values of those lands ever since the year 1895, when the canal was built there, and
441 since that?

A. The canal was there in 1895.

X Q. 52. I know. What I want to get at is, if there was no canal there, in your opinion those figures would be the value of those lands?

A. I am basing my judgment upon what those lands were worth before there was a canal there.

X Q. 53. I understand; but suppose there was no canal there for the past 12 years, would those figures be the same?

A. The conditions would be about the same.

X Q. 54. Would those figures be the same? We will suppose there had been no canal there for the past twelve years, would your testimony be the same for those twelve years as it is now?

A. Perhaps values may be, on that kind of land, a little more than they were twelve years ago. I am not certain.

X Q. 55. That is, building would be a little more now than it was twelve years ago?

A. It might be.

X Q. 56. It might be?

A. Yes. I think values are a little higher on lands and on most other property than they were 15 years ago.

X Q. 57. How about 1895? That is about 13 years ago.

A. Yes.

X Q. 58. And in 1896?

A. Well values are higher now than they were then.

X Q. 59. Than they were then?

A. Yes.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Drummond, I forgot to ask you if you at one time acted as deputy assessor of Merced County?

A. Yes sir.

R. D. Q. 2. And for how long a time, about?

A. Four years I think.

R. D. Q. 3. Do you remember what years those were? About when?

A. Oh it was about seven years ago I think when my term ended; about seven years ago.

442 R. D. Q. 4. Take the country generally which is supplied with water by this canal, Mr. Drummond, is farming under that profitable?

A. Yes sir.

R. D. Q. 5. And has it been during all the time that you have known it?

A. No sir.

R. D. Q. 6. What particular times was it unprofitable?

A. Well when we got the water down the canal people irrigated their lands for grain and it was not profitable. There was but little profit made there on those irrigated lands until they went into the dairy business.

R. D. Q. 7. How with reference to the time since they have been growing alfalfa?

A. Since they have been growing alfalfa it is highly profitable.

R. D. Q. 8. That is the fact is it?

A. Yes.

Mr. TREADWELL: That is all.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. Your testimony about the farming being profitable for alfalfa, Mr. Drummond, is based upon your own experience?

A. Somewhat.

R. X Q. 2. Do you know of your own knowledge whether the irrigators in Stanislaus county, all of them, have made money raising alfalfa?

A. I am not so familiar with the Stanislaus county people as I am with the Merced people.

R. X Q. 3. Then you would not undertake to swear that all the irrigators in Stanislaus county are making money?

A. I would not undertake to do that, no.

Mr. TREADWELL: This testimony did not cover Stanislaus county.

The WITNESS: But I am willing to swear that usually the
443 people are prosperous, appear to be.

(By Mr. LANGHORNE:)

R. X Q. 4. Appear to be? That is, in Merced County?
A. In Merced County.
R. X Q. 5. You say where you lived?
A. Yes sir.
R. X Q. 6. That is your impression, that they are prosperous?
A. Yes, and it is the general——
R. X Q. 7. You don't know of your own knowledge the amount of money that each man makes in Merced county along this canal?
A. Only as some of them tell me.
R. X Q. 8. How many irrigators are there in Merced county from this canal?
A. Well I could not tell you that. The majority of the ground irrigated from the canal I think is in Merced county.
R. X Q. 9. Well, there are several hundred irrigators there?
A. Oh yes, quite a number.
E. X Q. 10. You do not intend by your estimate to mean anything more than that your impression is from talking with some of the irrigators in your vicinity, that they are prosperous; is that it?
A. I mean to say that I think I understand that the people are prospering. My conversation with them is that they are prosperous; I think so; that they are prosperous.
R. X Q. 11. Have you spoken to all of the irrigators?
A. Oh no. Well I speak to a good many.
R. X Q. 12. How many have you spoken to, as to their being prosperous?
A. Oh I could not tell you. I am acquainted with all the people in that country. I have been there a long time.
R. X Q. 13. Will you please name some of the irrigators who have told you they are making money from irrigation on this canal?
A. Well, there are a great many jaw-breaking names. I will refer you, however, to Mr. Stockton and Mr. Pfitzer. They are here.
444 R. X Q. 14. Mr. Stockton?
A. Yes.
R. X Q. 15. What are his initials?
A. J. W., I believe.
R. X Q. 16. And Mr. Pfitzer?
A. Yes.
R. X Q. 17. You haven't spoken to them?
A. No.
R. X Q. 18. You haven't spoken to them about whether they are prosperous?
A. No, but they probably will know.
R. X Q. 19. Mention the name of somebody of whom you have asked that question.
A. Oh I can't think of the names of the people. I have simply gone out in a casual conversation with people.
R. X Q. 20. A Sort of sub-conscious impression?
A. I am not questioning people.

R. X Q. 21. Then you don't ask any questions?
A. No, no.
R. X Q. 22. Did they come to you and tell you?
A. It appears in casual conversation about the country, about dairying and such things that naturally will come up among neighbors.
R. X Q. 23. Well, now, mention one of those gentlemen who told you that in casual conversation.
Mr. TREADWELL: I suggest, your Honor, that the statements of these people are brought out by counsel's own cross examination, and he cannot cross examine his own witness in order to show that what he said was not true.
The MASTER: He answered in regard to the general prosperity of the people in response to your question, and counsel, if he desires, may go into details.

A. Mr. Parnell, Mr. Jasper.
R. X Q. 24. Where did they live?
A. Mr. Jasper is a neighbor of mine.
R. X Q. 25. How long ago did he tell you that?
A. Perhaps a month ago.
R. X Q. 26. What did he tell you?
A. He said that his dairy cows were paying him $70 a year.
445 R. X Q. 27. Did he specify any particular time?
A. He said the past year.
R. X Q. 28. The past year?
A. The past year. He had his cows rented out by shares by the year, and the term had just ended and he said that the cows had paid $70 a year.
R. X Q. 29. And who else? Who else in Merced County told you about prosperity?
A. It is hard for me to specify, but it seems to be the general talk around the country that the country is prosperous.
R. X Q. 30. That is because we have a Republican administration?
A. Oh I admit that.

Examination-in-chief of W. G. STOCKTON, called for complainant; sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Stockton?
A. At Los Banos.
Q. 2. How long have you lived in San Joaquin Valley?
A. I have lived there since 1872. It will be 36 years.
Q. 3. What is your business?
A. Well, at present I am a dairy farmer.
Q. 4. Have you been engaged in farming all that time, or what occupations?
A. Nearly all the time, yes sir.

Q. 5. Have you ever been in the employ of the San Joaquin and Kings River Canal and Irrigation Co.?

A. No sir.

Q. 6. Do you take water from that company?

A. Yes sir.

Q. 7. Do you remember how long you have been taking water from them?

A. Ever since that time.

Q. 8. Are you familiar with the land traversed by this canal in Fresno county?

A. Well, I don't know a great deal about it. Well, yes, I know something about it. But I am not so familiar with it as I
446 am with the land in Merced county. I have been along up and down the entire length of the canal a good many times in different years.

Q. 9. You know the character of the land?

A. The character of the land, yes sir.

Q. 10. And you know how it compares, do you, with the land in Merced County?

A. Yes sir.

Q. 11. You know what is grown on it?

A. Yes sir.

Q. 12. Have you been to the land of the canal recently?

A. I was there last year. I guess I was there this year.

Q. 13. There has been some testimony here in regard to the land near the head of the canal. Do you know what that is cultivated for now?

A. Well, it was in alfalfa when I was up there, a considerable portion of it.

Q. 14. Are you familiar with the land of the canal in Merced county from, say Merced County down to San Luis Creek?

A. Yes.

Q. 15. You know the condition of it, do you?

A. Yes sir.

Q. 16. And what is raised on it?

A. Yes sir.

Q. 17. Are you familiar with the price at which property is bought and sold in through there?

A. Yes sir.

Q. 18. Taking the main canal from the Merced line to San Luis Creek, how much per acre is the land worth that is traversed by that canal?

A. Well, I should think there was a strip in there that was nearly eight miles long, that is worth about $100 an acre.

Q. 19. And the balance?

A. The balance of it, on the upper end, I should think was worth about $10.

Q. 20. Taking the land in Fresno county covered by the main canal, how does that compare with the land that you just testified to in Merced county?

A. Well, the upper end of the land in Merced County and that in Fresno county is very much of the same character.

447 Q. 21. That is, with the exception of the land that you have testified to at the upper end?

A. Yes, up at the head of the canal; yes sir.

Q. 22. And how does the land on the outside canal compare with the land on the main parallel canal?

A. Well, take the length of it, why, there is a good deal longer strip of the upper canal that is better land than it is on the lower canal; for instance, from Camp 13 for 26 miles to the land designated, the land is pretty good from there and through to about Los Banos Creek.

Q. 23. Well, on an average, is the land on the outside canal more valuable or less valuable than the land on the main canal?

A. It is more valuable taking it as a whole.

Q. 24. Now, taking the portion in Fresno county, taking that on the outside canal, how much is that worth an acre?

A. That would be just about the same as the lower canal.

Q. 25. Not much difference?

A. You see, there has really been no land sold in that country. I don't suppose a man could buy it for $10, and I don't know as he could sell it for $10; but so far, if I wanted to place a value on it, I would say $10.

Q. 26. You are talking about Fresno county land?

A. Yes sir. I am talking about Fresno county land; that is below the canal, not above.

Q. 27. Below the outside canal?

A. Yes sir.

Q. 28. Taking the land on the outside canal in Merced county, between the Merced county line and the San Luis Creek, say, about how does that run?

A. Well, that is good land nearly all the way, though there is a strip of land there that is not quite so valuable. I should judge four or five miles along opposite the hills, the banks, where it cuts through the edge of the hills, I would say $25 an acre; a strip of four or five miles there.

448 Q. 29. But on an average how much would you say that land was worth?

A. Clear through to Cottonwood?

Q. 30. Yes.

A. It is very difficult to say, but I should say it would be worth $35 an acre, all the way through.

Q. 31. Now, are you familiar with the value of land going down the canal from San Luis Creek, or not?

A. Yes sir, I have an idea of it.

Q. 32. How far down does your knowledge run?

A. Well, say, as far as the Cottonwood. I have a general knowledge of it; all the way through. I know it is all good land there, from Mr. Pfitfier's place to Orestimba Creek.

Q. 33. And what is the value of that land on an average?

A. I should say the bare land was worth $100 an acre, at least.

Mr. TREADWELL: I think that is all. I will ask you one more question:

Q. 34. Have you also noticed the land in that vicinity which is not artificially irrigated?

A. Yes sir.

Q. 35. And what is the comparative value of land that cannot be artificially irrigated there, and land which is artificially irrigated?

A. Well, land outside, I should say, is worth from $5 to $10 an acre; some of it something more, where they can irrigate from the creek. I should say, lying in that vicinity around Los Banos, was worth around $10 an acre.

Q. 36. What kind of uses can that land be put to?

A. Well, they raise crops on it once in a while.

Q. 37. How often?

A. About once in five years.

Q. 38. Is the farming of land under this canal profitable, Mr. Stockton?

A. Yes sir.

Q. 39. What are the principal kind of crops that are raised there?

A. Well, we dairy and raise hogs and horses and cattle.

Q. 40. And during the period that you have known that
449 country down there under this canal, has it or has it not been profitable to farm that land to alfalfa?

A. Well, it is, for the last twelve years.

Q. 41. How about before that time?

A. Well, I don't know anybody that made anything there; at least, very little.

Q. 42. What were they farming before the last twelve years?

A. Grain.

Q. 43. And the grain, you think, was not a profitable investment?

A. No sir; the last crop I raised, we raised twenty sacks to the acre and went behind on it.

Q. 44. Now, how long had they been growing alfalfa down there?

A. I should think about the last twelve years. There has always been more or less alfalfa grown in that country; that is, ever since 1872.

Q. 45. But do I understand you that alfalfa has always been profitable wherever it was grown there?

A. Well, I can't say that it was.

Q. 46. When did you first grow alfalfa?

A. I think we sowed our first alfalfa eight years ago; either eight or nine.

Mr. TREADWELL: I think that is all.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. You live, Mr. Stockton, right at Los Banos, the town of Los Banos?

A. I live three miles south of the town.

X Q. 2. That is in Merced county?

A. Yes sir.

X Q. 3. How many acres do you farm, Mr. Stockton?

A. There is in our place 150 acres.

X Q. 4. I understood you to say you didn't know very much about the land, the character of the land, or its value in Fresno county. Is that so?

A. I don't know very much about the values; that is, I
450 have not heard of any being bought or sold. I know nothing or very little; that is, I mean, on the outside. That is, you speak about, in answer to the question there as I understood it, along the lines of the canal. That is what I meant.

X Q. 5. Now, then, commencing with the easterly line of Merced county and going northwest on the canal, I understood you to say that there was a strip there of about eight miles long that you thought was worth $100 an acre?

A. Yes sir.

X Q. 6. Is that from the easterly line of Merced county?

A. No sir, it is what you may call, as Mr. Drummond designated it, a thirty-mile point.

X Q. 7. Is that northwest of the 30-mile point?

A. Yes, it is northwest of that.

X Q. 8. That is the 30-mile point? That is northwest of the 30-mile point?

A. Yes sir.

X Q. 9. Now, between the 30-mile point and the easterly line of Merced county, what in your opinion is the value of the land?

A. $10.

Q. 10. Is that true of both the main canal and the outside canal?

A. Well, the good land goes, say, a little higher up the old canal.

X Q. 11. That would be about an average?

A. Yes sir.

X Q. 12. After you pass that strip of the eight miles to the northwest point, the 30-mile point, and from there to the northwesterly line of Merced county, what is the average there of value?

A. Well, there is a part of that is the most valuable land there is; but say, from that point, where you designate, from San Luis creek——

X Q. 13. That is, from 30-mile?

A. No, 38 miles; from that point to San Luis creek, through from that immediate vicinity I should think it was worth $25.

451 X Q. 14. Then, from San Luis creek on to the northwest?

A. The same would follow for the next two or three miles.

X Q. 15. $25?

A. Yes sir.

X Q. 16. And then that would bring it up?
51?

A. Yes, that would bring it up to the 41-mile point, to the Stanislaus line.

X Q. 17. And there it is worth about how much?

A. It is worth about $100 an acre.

X Q. 18. You think that is worth $100?

A. Yes sir, that is as near as I could judge. I don't know the exact figures, but that is as near as I could estimate it.

X Q. 19. That is as near as you know?

A. I mean that is as near as I know.

X Q. 20. Do you know of any sales within that $100 strip that you speak of?

A. How is that?

X Q. 51. Do you know of any sales being made within that $100 strip?

A. I have heard of lots of them.

X Q. 22. Do you know of any of your own knowledge?

A. Not by having sold any.

X Q. 23. Do you know by hearsay, then?

A. Well, the man that sold it told me so.

X Q. 24. That is the only way you know of it?

A. Yes sir, just what he said.

X Q. 25. You are not engaged in the real estate business yourself?

A. No sir.

X Q. 26. I understood you to say that if the land was not irrigated at all, if this ditch was not there, this canal, and these works were not there, that the land would average from $5 to $10 an acre. Is that right?

A. I said the land above the canal in the vicinity of Los Banos creek south, for instance, would be worth, say $5 to $10 an
452 acre.

X Q. 27. That is south; you mean going up towards the head of the canal?

A. Yes sir, going up towards the head of the canal.

X Q. 28. Now, from Los Banos to Stanislaus county, up to the end of the canal, if there was no irrigation at all, what would it be worth?

A. I should think it would be worth from $10 to $20 an acre. Understand, the further you go south the less rain you get.

X Q. 29. I understand that. You were here and heard Mr. Drummond's testimony in regard to the rainfall, 7.8?

A. Yes sir.

X Q. 30. For ten years?

A. Yes sir.

X Q. 31. That is about right, is it?

A. Yes sir.

X Q. 32. By the questions I asked you, I intended to cover, and I think one of them did, the outside lands, the lands along the out-

side canal, too. Would there be any difference, in your opinion, in the land on the outside canal, from the land on the inside canal?

A. Any difference between the two?

X Q. 33. Yes sir.

A. Yes sir, there is a difference.

X Q. 34. In what way?

A. The land is better on the outside canal than it is on the inside canal. That is, further along, it is no better. The land is no better on the outside canal where it is good, than it is on the inside canal where it is good.

X Q. 35. Now then, Mr. Stockton, the land lying to the south of the outside canal and to the south of the main canal where there is no outside canal, and which cannot be irrigated from this canal, those values, I suppose, are the same as you testified to in case there were irrigation at all there? Is that correct?

A. I want to get your question through my head thoroughly.

X Q. 36. Take the land on the upper side of the canal that cannot be irrigated?

A. Clear to the outside?

X Q. 37. I say, on the outside canal that cannot be irrigated; what do you think that is worth?

453 A. Well, I just testified, from Los Banos creek I consider it worth from $5 to $10 going south, and from $10 to $20 going north.

X Q. 38. Now, you were put on as a prosperity expert, too. Then about the farmers irrigating from this canal being prosperous, I suppose your opinion is based merely on hearsay, is it not?

A. I know what I have done myself.

X Q. 39. That is your own experience?

A. Yes sir. I don't see why they could not do better than I did, because they work harder as a general thing.

X Q. 40. Do you take your water from the company under a special contract with the company?

A. Just the same as the other people.

X Q. 41. Just the same as the others? No special contract?

A. No sir.

X Q. 42. Just under the supervisors' rates?

A. Yes sir.

X Q. 43. Now, with whom——

A. Well, I had to sign a contract before I could get the water. I had to agree to pay $1.75.

X Q. 44. When was that?

A. This year.

X Q. 45. $1.75 an acre?

A. Yes sir.

X Q. 46. Are you not sold water by gate measure?

A. No sir.

X Q. 47. How long was it you signed the contract?

A. I think I signed it the first of July.

X Q. 48. What year? 1908?

A. 1908.

X Q. 49. For the irrigation year commencing then at $1.75 an acre?

A. Yes sir.

X Q. 50. Do you know whether that is the common contract under which other persons in Merced county are getting their water?

Mr. TREADWELL: We object to that as not cross-examination.

The MASTER: I think you should make the witness your own.

Mr. MCCORMICK: It would throw light on the interest of this witness.

454 The MASTER: For the purpose of testing the credibility of the witness, it is allowed.

(By Mr. LANGHORNE:)

X Q. 51. Do you know whether other persons in Merced county are getting water under the same contract that you are?

A. I don't know anything about it. I think they are all just the same.

X Q. 52. Then water is not sold to you now by measuring gates?

A. They are trying to.

X Q. 53. But you are not taking it that way, are you?

Mr. TREADWELL: We object to that as not cross-examination, what is being done now. As to what rates they are getting their water at is not material since this injunction has not been issued. The company is fixing its own rates, of course, but it is entirely immaterial what it is receiving for water pending the hearing of this case.

The MASTER: I think you should make him your own witness if you desire to pursue that line of investigation.

Mr. LANGHORNE: Can I make him our own witness at this time?

The MASTER: To save re-calling him, if there is no objection to that.

Mr. TREADWELL: I think there is, your honor. I would like to get our evidence in first.

The MASTER: If there is any objection, you had better recall him later.

(By Mr. LANGHORNE:)

X Q. 54. Prior to July, 1908, what rate were you paying?

A. $1.08.

X Q. 55. That is, $1.08 per acre per year?

A. Yes sir.

X Q. 56. Mr. Stockton, will you mention the name and residence of any of the persons irrigating through this ditch who have told you they have made money raising alfalfa or farming their lands irrigated by this ditch?

455 A. Well, I don't know as anybody has come out and told me they had. I have heard it in casual conversation. I have heard a good many say so, I think.

X Q. 57. But you can't remember the names of any?

A. Not just specially. I could name all my neighbors, for in-

stance, as far as that is concerned. We have talked about it back and forth, how much our cows were paying us, and so on.

X Q. 58. I suppose there is some credit due to the cow as well as to the alfalfa?

A. Oh yes, and some due to the milker, also.

X Q. 59. Have you any idea about how many irrigators from this canal live in Merced county?

A. No sir, I have not.

X Q. 60. There are several hundred of them, are there not?

A. That is a good many.

X Q. 61. I don't know. There are several hundred, are there?

A. Well, I should think there would be 200 or 300, but still it would be just guesswork of mine.

X Q. 62. I understood you to say there was a time that raising alfalfa on land irrigated from this canal was not profitable?

A. Well I didn't see anybody that made anything. There was nobody got wealthy very much.

X Q. 63. That was about how long ago?

A. Well, that was since 1872, up to the last ten or twelve years.

X Q. 64. Was it due to their raising of wheat on the land mostly?

A. They were trying to raise wheat. There was a good many of them raised it. Most everybody had little bits of alfalfa, where they could irrigate.

X Q. 65. But still they made no money from alfalfa?

A. No, I don't think so.

X Q. 66. Then to what do you attribute, in your opinion, the profit in raising alfalfa from the irrigated land?

A. Well, about that time we began to get better prices for our butter and for our pigs and for our calves and for our cows
456 and for our horses and everything we raised.

X Q. 67. About when did those better times start in, if you can state?

A. The last eight or ten years.

X Q. 68. That was when the water rate was put down, wasn't it, in Stanislaus county?

A. I don't know I am sure.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. So far as the main canal is concerned, where it is paralleled by the outside canal, the land on both sides of it, is susceptible of irrigation, I believe?

A. Yes sir.

R. D. Q. 2. Now take the portion from the head of the canal to the place where the outside canal leaves it, is land on both sides of it susceptible to irrigation, or do you know?

A. Where? At the upper end?

R. D. Q. 3. Yes.

A. Well, I would call that flood-land.

R. D. Q. 4. It is flooded, anyhow?

A. Flooded; yes sir; except where the water would be leveed in; overflowed land.

Examination in chief of JASPER N. STUHR, called for complainant; sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Stuhr?
A. In the town of Newman, Stanislaus county.
Q. 2. Newman is about how far from the Merced line?
A. About half a mile.
Q. 3. It is then very near the line dividing Merced and Stanislaus counties?
A. Yes sir.
Q. 4. How long have you resided there?
A. Well, I have been there most of the time since 1886.
457 Q. 5. What is your present business, Mr. Stuhr?
A. Real estate.
Q. 6. Are you in the business of buying and selling, or acting as an agent?
A. Buying and selling, principally.
Q. 7. Well, do you act as a broker, or buying and selling on your own account?
A. I sell on commission, also.
Q. 8. You also buy and sell for yourself?
A. Yes sir.
Q. 9. Are you familiar with the land in the county of Merced and in the county of Stanislaus, say from San Luis creek to the end of the canal, which is covered by the canal of the San Joaquin and Kings River Canal and Irrigation Co.?
A. Well, say from the Ingomar road to the end of the canal.
Q. 10. Are you familiar with the prices at which land is bought and sold in that neighborhood?
A. Yes sir.
Q. 11. Are you familiar with the character of the land and the crops that can be raised on it?
A. Yes sir.
Q. 12. Beginning at the Ingomar road and going down the canal, what is the value per acre of the land traversed by this canal, the main canal?
A. Take it from about the Ingomar road down to about a mile, a little over a mile, it is not quite so good, but from there to the end, I consider the land worth $100 an acre.
Q. 13. That is, the end of the canal in Stanislaus county?
A. Yes sir.
Q. 14. Are you familiar with land in this vicinity which is not and cannot be irrigated artificially?
A. Yes sir.
Q. 15. What do they do with that land?
A. Raise grain on it.
Q. 16. Raise grain on it?
A. Whenever there is rainfall enough to raise a crop.
Q. 17. Can you always get a crop of grain on it with the natural rainfall

A. No, not always. By summer fallowing they manage most every year to raise some, but not always a paying crop.

Q. 18. Has the rainmaker appeared down there this year?

458 A. Yes, he has commenced again.

Q. 19. What are they offering the rainmaker down there this year for water?

A. I have not heard.

Mr. LANGHORNE: We object to that as wholly irrelevant.

(By Mr. TREADWELL:)

Q. 20. Well, we will pass that. What is land worth down there, Mr. Stuhr, that cannot be artificially irrigated?

A. From $20 to $30 an acre.

Q. 21. Are you in the employ of the San Joaquin and Kings River Canal and Irrigation Co.?

A. I am not.

Q. 22. Have you worked for them?

A. I did, eight years, from 1876 until Mr. Drummond was superintendent, at that time.

Q. 23. Do you yourself take water from this canal?

A. I do, yes sir.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. I understand your testimony, Mr. Stuhr, relates to the land over which the canal runs, or in the immediate vicinity the Ingomar road nearer to the west end of the canal?

A. Yes sir.

X Q. 2. How far is it from the Ingomar road to where the San Luis creek crosses the canal?

A. Well, it is about three or four miles.

X Q. 3. Northwest of that creek?

A. No, it is southeast.

X Q. 4. Southeast of that creek?

A. The Ingomar road is northwest of the creek.

X Q. 5. And crosses the canal northwest?

A. Yes.

X Q. 6. About three miles to the northwest of this San Luis creek?

A. Yes sir.

X Q. 7. And you say you think that land in that section that cannot be irrigated from that canal is worth from $20 to $30 an acre?

459 A. Yes sir.

X Q. 8. That is, for instance, I presume you refer to lands that lie to the southwest of the canal?

A. Outside.

X Q. 9. Outside, above?

A. Yes sir.

X Q. 10. What is that land farmed for mainly?

A. Grain.

X Q. 11. And it depends, as you say, upon their getting rain, mainly, does it not?

A. Yes sir.

X Q. 12. Do they get more than one crop on an average in three or four years?

A. Yes, by summer fallowing, they do get a crop oftener.

X Q. 13. They do get a crop oftener?

A. Yes.

X Q. 14. How much do they raise to the acre of barley or wheat?

A. They raise there, well, say all the way from five sacks to 20 or 25 sacks of barley to the acre.

X Q. 15. What is the weight of those sacks?

A. About a little over 100 pounds of barley.

X Q. 16. That is the land, I understand you to say to be worth $20 to $30 an acre?

A. It is held at that value at present.

X Q. 17. It is held at that value?

A. Yes sir.

X Q. 18. Do you know of any land that has been sold at $30 an acre?

A. Yes sir.

X Q. 19. Where is that land?

A. On the Orestimba creek.

X Q. 20. And sold by whom?

A. By Jules Cain.

X Q. 21. When was that?

A. About a little over a year ago.

X Q. 22. How much land was there?

A. There was about 200 acres.

X Q. 23. About 200 acres? Who bought it?

A. Mrs. Cousins of Berkeley.

X Q. 24. And she paid $30 an acre for it?

A. Yes sir.

X Q. 25. Any improvements on it?

A. Well, there was—yes, there was a part of the improvements. I owned three-fourths of the 760 acre tract and she bought
460 one-fourth of it. She has got an interest in the improvements: a one-fourth interest in the improvements.

X Q. 26. Was that included in its price?

A. Yes sir.

X Q. 27. This Orestimba creek, is there any bottom-land on that creek?

A. No sir, there is gravel there. That is where the creek is quite wide; there is gravel there too.

X Q. 28. Do they use any of that water from that creek for irrigation?

A. No, we haven't used any.

X Q. 29. What other sales in that section at $30 an acre, do you know of?

A. There is Pete Stewart, he paid $40 for a quarter section of that land right north of the creek. It is about four years ago.

X Q. 30. Any improvements?

A. No.

X Q. 31. What is that? Wheat land or barley land?

A. Yes, it is grain land.

X Q. 32. Now you say it is held from $20 to $30. That sale of Mr. Stewart was made when?

A. About four or five years ago.

X Q. 33. And with the exception of those two sales which you have mentioned, do you know of any other sales of that land lying outside of the canal?

A. There was a man by the name of Jacob Johnson bought about 400 acres here within the last month.

X Q. 34. Of this character of land?

A. Yes sir.

X Q. 35. What price did he pay for that?

A. A few cents less than $30 an acre.

X Q. 36. Any improvements?

A. Yes, there was some old improvements.

X Q. 37. That is, they were included in the price?

A. Yes, the improvements was very little.

(By the MASTER:)

X Q. 38. What was the value of the improvements on that first sale that you speak of in which you had an undivided three-fourths interest?

A. Just the ordinary farm buildings, a pretty fair dwelling house and a barn and a granary.

461 X Q. 39. What was the value of the improvements?

A. The value of those improvements was perhaps $3,000.

X Q. 40. Those were included in the price charged, $30 an acre?

A. Yes, but those improvements is good for the 760 acre tract.

X Q. 41. Yes, I understand. But the party that bought the one-fourth interest bought into the improvements also?

A. Yes sir.

(By Mr. LANGHORNE:)

X Q. 42. Did you testify in answer to counsel that you are a water-user under this canal?

A. I am.

X Q. 43. Have you a contract with the company for water?

A. There is no contract at present. I was sent a contract but I have not signed it yet.

X Q. 44. You were sent one?

A. I was sent one through the mail some time ago. We sometimes sign contracts if not paid in advance, or cash.

X Q. 45. Well, up to July, 1908, had you a contract?

A. No, I had no contract.

X Q. 46. You were paying the county rate?

A. Yes sir.

X Q. 47. And this new contract which was sent you was from what time, for what year?

A. That was supposed to be for this year.

X Q. 48. That is supposed to be to next July?

A. Yes sir.

X Q. 49. That is supposed to commence July 1, 1908?

A. Yes sir.

X Q. 50. Have you got that contract that they sent you?

A. No, not with me. It is at my office.

X Q. 51. How are you paying for water now?

A. I have not paid for any water since the commencement of this year.

X Q. 52. You have not?

A. No

X Q. 53. Is your water being measured at a measuring gate?

Mr. TREADWELL: We object to that as being immaterial. It doesn't make any difference whether it is being measured or is not. It is not cross-examination. I desire to invoke the rule that
462 counsel shall get through with the witness on cross-examination.

The MASTER: We will have to stay with the rule.

Mr. LANGHORNE: I withdraw the question.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Now, Mr. Stuhr, you referred to the contract you had signed in previous years where you got water.

A. Yes sir.

R. D. Q. 2. The company has a regular form of contract, has it not?

A. Yes sir.

R. D. Q. 3. A regular form in use, which it takes from people who wish to take water on credit?

A. Yes sir.

R. D. Q. 4. Is the rate under that contract any different from the rate charged to other consumers?

A. No.

R. D. Q. 5. It is for the purpose of protecting the company in the giving of credit, is it not?

A. Yes sir.

R. D. Q. 6. Have you any instances of rental of this character of land which you have referred to as being worth from $20 to $30 an acre, non-irrigated land, the leasing of that land?

A. Well, it is generally always leased under a share of a crop, one-quarter, and a few of them get one-third.

R. D. Q. 7. Of course that is of no value here. But are there any leases for a monetary consideration, that you know of?

A. None that I know of.

Further hearing adjourned to Tuesday, October 13, 1908, at 10 a. m.

463 TUESDAY, *October* 13, 1908, 10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Testimony of JASPER N. STUHR, recalled for complainant.

By Mr. TREADWELL:

R. D. Q. 8. Mr. Stuhr, you stated yesterday, I believe, that a piece of outside land above the influence of this canal was sold by a man named Peter Stewart for $40 an acre. Do you wish to make a correction in regard to that?

A. I wish to make this correction: It should have been $30 instead of $40.

R. D. Q. 9. What did you have in your mind when you referred to $40 in that case?

A. I happened to make two transactions, two separate quarter sections of land at that time, and the other quarter section was the one that brought $40. Stewart paid only $30 for his.

R. D. Q. 10. Now the outside canal at the present time goes as far as Quinto Creek, does it?

A. Yes sir.

R. D. Q. 11. Does it ever supply water to land beyond that creek?

A. Well, I am interested in some land there that we have extended a ditch to, about five miles over to another creek called the Garzas Creek.

R. D. Q. 12. So, taking the land between the outside canal and down as far as Los Garzas Creek, what is that land sold for?

A. It is selling at from $125 to $140 an acre.

R. D. Q. 13. And taking the land on the upper side of the main canal below Los Garzas Creek, how near to that canal, near the main canal and between that and the grade of the present outside
464 canal, if I understand it, what does that land in there sell for?

A. There has been several pieces of land sold there lately, at from $70 to $90 an acre.

R. D. Q. 14. Do you know whether the owners of land down in there have been asking to have the outside canal extended?

A. I don't know for certain, but there is several that have been talking about it, that they would like to get water onto that land there.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. Mr. Stuhr, this land that you say has been selling for $125 to $140 an acre, is that under irrigation or capable of being irrigated?

A. It is capable of being irrigated.

R. X Q. 2. It is?

A. Some of it is under irrigation now.

R. X Q. 3. There is water available to irrigate that?

A. Yes sir.

R. X Q. 4. And in regard to the land which you say is selling for from $70 to $90 per acre on the upper side of the main canal, is that land *land* which would be under irrigation *is* the outside canal were extended?

A. Yes sir.

R. X Q. 5. And is not that the reason for the higher price of that land, the possibility or the expectancy that that outside canal will be extended?

A. Yes sir, on that particular kind of land.

R. X Q. 6. Has there been any assurance that you know of by the canal company that that outside canal would be extended so as to cover that land that is selling for $70 to $90 an acre?

A. No sir.

R. X Q. 7. How far is it from the end of the outside canal at the present time?

A. It is about—Bye the way, the water would have to be conducted about four or five miles.

R. X Q. 8. But the price which you mention, namely,
465 $70 to $90 for that land, is based, you say upon the expectation that that outside canal will be extended, and that water will be gotten on that land? Is that it?

A. Yes sir.

R. X Q. 9. Is not the new ditch running out past that land which you say has been selling for $70 to $90 an acre?

A. It is not supposed to be for that land, the land that I am interested in or the ditch that I have extended is over to the Los Garzas Creek, and from there there is one party that has made a small ditch for a particular quarter section of land that I understand he paid $100 an acre for.

R. X Q. 10. Now, as to this land you say that has been selling for $70 to $90 an acre, isn't there a water ditch near that land?

A. There is, our ditch.

R. X Q. 11. Your ditch?

A. Extended from the end of the canal.

R. X Q. 12. Well, cannot that land which you say has been selling from $70 to $90 an acre be irrigated from what you call "our ditch"?

A. No, I think not unless some arrangement can be made.

R. X Q. 13. Unless some arrangement can be made? Is there no other ditch except the one you call "our ditch"?

A. Not there; no sir.

R. X Q. 14. Nowhere in that vicinity?

A. No sir.

Mr. LANGHORNE: That is all.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. The ditch that you refer to, which leaves the company's canal in the vicinity of Quinto Creek, that is your ditch, is it—I mean a company in which you are interested?

A. Yes sir.

R. D. Q. 2. And the canal company has not extended its canal?

466 —. That is not a part of the works of the canal company?

A. No sir.

R. D. Q. 3. And any water that the company sells to you, they deliver to you in that ditch at the end of their canal, do they not?

A. Yes sir.

Mr. TREADWELL: That is all.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. You say that you and your associates have a ditch which irrigates certain lands of your own? Is that the idea?

A. Yes sir.

R. X Q. 2. Taken out from the canal of the complainant?

A. From the outside canal.

R. X Q. 3. From the outside canal of the complainant?

A. Yes.

R. X Q. 4. Well, isn't there a quarter section of land in there that is irrigated from what you call your ditch, which quarter section of land does not belong to your company?

A. Yes, that small ditch I have so referred to, from the end of our ditch, onto a particular quarter section.

R. X Q. 5. But I mean, that is owned by a party interested with you?

A. That ditch goes onto a particular quarter section of land that is owned by a party interested with me in a company there.

R. X Q. 6. Do you buy your water from the complainant company?

A. Yes.

Mr. LANGHORNE: That is all.

467 Examination-in-chief of ROBERT H. GOODWIN, called for complainant, sworn.

By Mr. TREADWELL:

Q. Where do you reside, Mr. Goodwin?

A. In Oakland.

Q. 2. What is your business or profession?

A. Civil and mining and hydraulic engineer.

Q. 3. How long have you practiced that profession.

A. Now 34 years.

Q. 4. What experience have you had in the matter of construction of canals and irrigation and hydraulic works?

A. Well, I have had a great deal of experience in the Modesto and Turlock irrigation districts.

Q. 5. Both those districts are located where?

A. In Stanislaus and Merced counties.

Q. 6. Have you had any experience in the examination of canals and irrigation works for the purpose of determining the cost and expense of their construction?

A. I have.

Q. 7. And from your experience, are you able to make an examination of those kind of works and determine the cost of constructing and reproducing them?

A. I am.

Q. 8. Are you acquainted with the canals and works of the complainant, the San Joaquin and Kings River Canal and Irrigation Co., incorporated?

A. Yes sir.

Q. 9. When did you first become acquainted with those works?

A. In 1896.

Q. 10. What occasion did you have to become acquainted with them at that time?

A. I was called upon by the Board of Supervisors of Stanislaus county to estimate the cost of the canals.

Q. 11. And did you at that time make an examination of the canals and works of the company?

468 A. I did.

Q. 12. Do you remember the general character of that examination, how long it took?

A. Well, it took quite a while. I don't remember exactly, but I should imagine about 35 or 40 days; that is, for the computations and for the work.

Q. 13. When did you next have occasion to make any detailed examination of the works of that company?

A. 1904.

Q. 14. What occasion had you to make the examination at that time?

A. At the request of the irrigation company.

Q. 15. The complainant in this case?

A. The complainant in this case.

Q. 16. You were employed, I suppose, were you, by that company?

A. I was.

Q. 17. What was the character and extent of the examination that you made in 1904?

A. It was very thorough, covering a space of about 60 days, I think.

Q. 18. Did you go over all of the canal and works of the company at that time?

A. I did.

Q. 19. Did you examine each structure?
A. Yes sir.
Q. 20. You estimated the material and labor in each structure?
A. I did.
Q. 21. Separately?
A. I did.
Q. 22. Did you or did you not make any drawings of the structures belonging to the company, plans and specifications of them?
A. Yes, field drawings.
Q. 23. By "field drawings"—will you explain to the court how that is done?
A. They are merely sketches; drawn to no particular scale; no particular scale attached to it; merely to refresh my memory.
Q. 24. In your field book?
A. In my field book.
469 Q. 25. Did you make a report in 1904 of the result of your examination?
A. I did.
Q. 26. Have you that report now?
A. I have not.
Q. 27. What became of it?
A. It was burned up in the fire in San Francisco.
Q. 28. When did you next make any detailed examinations of the canals and works of the complainant?
A. In 1906.
Q. 29. What was the occasion of your making that examination?
A. By the request of the complainant.
Q. 30. Will you state to the court as fully as you can the general method and nature and character of that examination, and the time you took upon it?
A. The examination was very thorough, starting at the head works, following along the company's canal, taking in each structure, obtaining the approximate amount of lumber in each structure; in fact, making a through examination of the whole system; checking up a copy of the report of 1904 which I had.
Q. 31. Do you remember about how long you were on that examination, all told?
A. From the examination and the filing of the report, it took about 50 or 60 days.
Q. 32. In the examination in 1904 did you examine the works which you had examined in 1896, and also any new work which had been constructed since that time?
A. Yes sir.
Q. 33. And in 1906, did you examine the work that you had examined in 1896 and in 1904, as well as any new work which was done after those dates?
A. I examined everything that was on the canal at that time.
Q. 34. Did you in 1906 make an estimate of the cost of building or replacing the canal and the structures and works of the complainant which you found there in 1906?
A. I did.
470 Q. 35. Did you make a written report of that estimate?
A. I did.

Q. 36. I show you a document headed, "Estimated cost of the head works and sundry items of the San Joaquin and Kings River Canal and Irrigation Co., in Fresno County," dated December 24, 1906, and purporting to be signed by R. H. Goodwin, consulting Engineer; also a document entitled "Estimated cost of the works of the San Joaquin and Kings River Canal and Irrigation Co. in Fresno, California," and signed in the same way; also a document headed "Estimated cost of the works of the San Joaquin and Kings River Canal and Irrigation Co. in Merced County," and dated and signed in the same manner; also a document headed "Estimated cost of the works of the San Joaquin and Kings River Canal and Irrigation Co., in Stanislaus County," and dated and signed in the same way; all of which are attached to the affidavit of Robert H. Goodwin on motion for injunction pendente lite, filed in this case on the 10th day of January, 1908; and I will ask you if that is the written report which you made at that time?

A. It is.

Q. 37. Does that report, Mr. Goodwin, represent your judgment as to the cost of reproducing or rebuilding the work, canals and other structures which are mentioned therein, at the time you made your examination in 1906?

A. Yes sir.

Q. 38. Did you also at that time estimate the number of acres covered by the right of way of the canal?

A. I did.

Q. 39. And are they correctly set forth in this document?

A. They are.

Q. 40. You did not, I believe, put any valuation on the right of way?

A. I did not.

Mr. TREADWELL: We offer in evidence in connection with the testimony of this witness the report referred to, and ask that it be designated as complainant's exhibit No. 1 I suppose it may
471 be stipulated that it may be referred to for all purposes of the case without recopying it into the record, it being on file in the case.

Mr. LANGHORNE: I ask counsel if in offering that report, he offers the affidavit made in January, 1908?

Mr. TREADWELL: No sir, certainly not.

Mr. LANGHORNE: The defendants object to the introduction of the report, Complainant's Exhibit No. 1, in evidence on the ground, first, that it is incompetent; second, that it is irrelevant.

The MASTER: I overrule the objection.

Mr. LANGHORNE: Defendants note an exception to the ruling.

The MASTER: I understand the examination was made as late as 1906, which is a very recent date.

(The document referred — was marked "Complainant's Exhibit No. 1.")

Mr. TREADWELL: Subject to your objection and exception, it will be stipulated that complainant's exhibit No. 1 may be used for the

purposes of the case without being copied into the record, it being on file in the suit.

Mr. LANGHORNE: That is all right.

(By Mr. TREADWELL:)

Q. 41. Mr. Goodwin, I show you a map entitled, "Map of Irrigation System of San Joaquin and Kings River Canal and Irrigation Co." and I will ask you if that map in a general way correctly delineates the location and extent of the various canals of the company which you examined?

A. Yes. I did not compile it, but it looks to me in a general way as though it was correct.

Mr. TREADWELL: We offer that map in evidence, in connection with the testimony of the witness.

Mr. LANGHORNE: Defendants object to the introduction of the map on the grounds, first that it is incompetent, second that it is irrelevant.

472 The MASTER: I overrule the objection.

Mr. LANGHORNE: Defendants except.

(Marked "Complainant's Exhibit No. 2.")

(By Mr. TREADWELL:)

Q. 42. How is the water taken out of the San Joaquin River, Mr. Goodwin into that canal?

A. It is diverted from the river by a weir which we term as the San Joaquin River weir.

Q. 43. Does that extend clear across the San Joaquin river?

A. Yes sir.

Q. 44. Do you remember the general method of construction of that weir, the general nature of that weir?

A. Yes, at that time I went into it pretty thoroughly, and in a general way, it was a very well constructed weir.

Q. 45. Do you remember about the measurement of it, and in a general way do you remember about what the width of that river is where that weir is?

A. I think my report will give the dimensions.

Q. 46. Yes, your report contains the figures: "380 x 34 x 16." Will you interpret those figures, Mr. Goodwin?

A. The first figures is the length.

Q. 47. In feet?

A. In feet. And the next figure is the width in feet, and then the depth.

Q. 48. And throughout this report, that is what those figures mean?

A. Yes sir.

Q. 49. As an engineer, Mr. Goodwin, is it an easy problem or a difficult problem to find a safe place in a river of the magnitude of the San Joaquin river, to place a weir of that character so it will permanently stay in the river?

A. It is a difficult question. It takes a good deal of exploration to do that.

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473 Q. 50. And as an engineer, would you say that the head works of this canal are situated in an advantageous place where a weir can be safely put, or otherwise?

A. It was not an ideal place for a weir, on account of the quicksands.

Q. 51. What other structures are there at the head of the canal besides this weir?

A. On the main canal there is a head gate and a controlling weir. There is also a head gate on what is termed the China Slough.

Q. 52. And did you estimate the material and labor and all the expense incident to the construction of those, in the same manner as you did the weir?

A. Yes sir.

Q. 53. And going over the canal generally, did you take each structure, including the waste gates and stop gates and bridges and measuring boxes and houses and buildings, and estimate each one separately, just exactly the amount of labor and material and lumber that was in it?

A. I did.

Q. 54. And is this report gotten up in such a shape that any one of those structures can be referred to, and your figures verified?

A. Yes sir.

Q. 55. Along the canal bank, is there any roadway all the way from the head as far as Newman?

A. Well, practically all the whole length of the canal.

Q. 56. The bank of the canal where the earth has been thrown out from the excavation that has been formed into a roadbed?

A. Either that or backed up the embankment, making it more solid and wider.

Q. 57. And what is the general condition of that roadway?

A. Very good indeed, when I was over it.

Q. 58. Do automobiles and horses and wagons travel it?

A. I didn't happen to see any, but they go along there.

Q. 59. You didn't see any automobiles?

A. I didn't see any automobiles.

474 Q. 60. But it is traveled by horses and wagons?

A. Yes sir.

Q. 61. You did not include anything extra in your estimate for that road?

A. No, I did not.

Q. 62. In regard to the canals, Mr. Goodwin, what is the difference between a canal when new and when old? Does it improve with age or decrease with age—that is, the excavation work itself; nothing else but the excavation work?

A. It improves with age.

Q. 63. And in what way?

A. It settles, becomes firmer. It stops seeping, which is a big item in irrigation work.

Q. 64. About the blowing out of the canal and structures, is there more or less likelihood of that in a new canal than in an old one?

A. Very much more in a new canal. The structures are not well seated.

Q. 65. In estimating the value of road work and excavation of these canals, did you simply put the valuation of the actual cost of excavating them, or did you add anything for the appreciation that you have mentioned?

A. No, I did not add the appreciation; just the mere cost of the excavation.

Q. 66. That is, you took no note of any appreciation, if there was any, in making your estimate?

A. No sir.

Q. 67. Now, in regard to the structures of the canal, as I understand your testimony, in this report you show the cost of producing those structures as they were originally built?

A. Yes sir.

Q. 68. If built in 1906?

A. 1906.

Q. 69. In making that examination, did you attempt to note the age of those structures or not?

A. I did not.

Q. 70. And did you attempt to note the actual condition of them in respect to deterioration at that time?

A. No, I did not.

Q. 71. So, as I understand your testimony, you are simply
475 testifying in regard to those structures as to what it would cost to build them in the same form they originally were if built in 1906?

A. Yes sir.

Q. 72. In getting up your reports, Mr. Goodwin, did you show what part of the works and the canals of this company were in each of the several counties of Fresno, Merced and Stanislaus?

A. I did.

Q. 73. And you can tell from an examination of your reports which of these works are used by the consumers of each of those three counties?

A. Yes sir.

Q. 74. Refreshing your memory from the affidavit which has been referred to, Mr. Goodwin, will you state whether or not you made a tabulation of the parts of the works and canals of the complainant which are used by each of those counties?

A. I did.

Q. 75. Now taking the county of Stanislaus, will you give a list of the property which you found was being used by the inhabitants of that county?

Mr. LANGHORNE: We object to that question, on the ground that it assumes he made an examination as to what portion of this canal was being used by the inhabitants of Stanislaus county. There is no evidence here so far that he did. I understood him to say that his report shows what part of the canal was in each county. Now he is asked to refresh his memory from the affidavit as to things which

he testified to in there. This question assumes that he had made some examination.

The MASTER: I think there should be a foundation laid for the question. I sustain the objection.

(By Mr. TREADWELL:)

Q. 76. Did you observe and examine into the uses and purposes to which these various canals of the company were put?

A. Yes.

476 Q. 77. And did you observe to what places water was conveyed by each of those canals, by each of the main canals, and the lateral canals, of course, but not the gates and the sub-deliveries?

A. I did not.

Q. 78. Did you observe, for instance,—did you or did you not—where water was conveyed to, through the main and parallel canals?

A. Yes sir.

Q. 79. And you observed also, did you, what use was made of the Dos Palos canal, where it took its water to?

A. Yes sir.

Q. 80. And you observed the places that water was conveyed to by the outside canal?

A. I did.

Q. 81. Now, from those observations did you make an estimate or a statement as to the particular canals or properties which are used for conveying water to each of these three counties?

A. I did.

Q. 82. And you are able to state to the court which of these structures and canals are used for that purpose?

A. Yes sir.

Q. 83. Now taking the county of Stanislaus, what properties of this company are used for the purpose of taking water to that county and distributing it to the inhabitants thereof?

A. The main canal, the parallel canal. There is a small branch called the Orestimba branch, and the canal stations and implement

Q. 84. That is, the canal stations and implements; do you mean all of them, or the ones that are located in that county?

A. No, those that belong to Stanislaus county.

Q. 85. The ones that are located in that county?

A. I think the outside canal has more or less to do, and it should be included. But to what extent I never went into.

Q. 86. You did not make a careful enough examination,

477 then, as to the use of the outside canal, to endeavor to determine how much use it was in carrying the water to Stanislaus county?

A. I did not.

Q. 87. Now, you did not include in your statement the head works?

A. No, I did not.

Q. 88. You meant to do so, did you not?

A. I did. Those outlet canals also should have been included, a certain portion of them. To what extent I don't know.

Q. 89. That is, the outlet canals; that is, the canals that run between the outside canal and the main canal?

A. Yes sir.

Q. 90. As I understand it, you can't say from the knowledge that you have how much of those are useful for the county of Stanislaus?

A. No.

Q. 91. Now will you give the list of the properties which were at that time used for supplying water to the county of Merced?

A. The head works and the main canal.

Q. 92. How much of the main canal?

A. All that which is in Fresno and Merced counties. The parallel canal, the Dos Palos system and the outside canal, including the extensions and the outlet canals; also the station and implements in Merced county.

Q. 93. Now, can you state the properties which you found being used for the purpose of supplying water to the inhabitants of Fresno county?

A. They would be the head works and the main canal in Fresno county, and that portion of the parallel canal in Fresno county, and that portion of the Dos Palos System in Fresno county, and those portions of the outside canal and outlet canal in Fresno county. I would ask whether the head works was not included in the Merced?

Mr. TREADWELL: Yes, it was. You referred to that.

The WITNESS: The head works goes in all the counties.

478 Q. 94. Referring, Mr. Goodwin, to the structures and canals which you have referred to in your testimony and reports, were those all being used for the purpose of distributing this water?

A. Yes sir.

Q. 95. And were they or were they not useful for that purpose?

A. Yes sir; all those that were not I did not include in the report.

Q. 96. You have stated in your report the amount that you would allow for lumber of various kinds, and also the amount for excavation, earthwork, and for carpentering work; and I will ask you whether or not those amounts were the prevailing prices at the time you made this examination, in 1906.

A. They were a fair price; if anything, a trifle low at that time.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Goodwin, I understand you to say that you made an examination of complainant's canal in 1896 on behalf of the county of Stanislaus?

A. I did.

X Q. 2. Was that in the matter of the fixing of the water rates to

be charged by this canal company, the defendants' predecessor to water users, the inhabitants of the County of Stanislaus?

A. I believe it was.

X Q. 3. You say that in this report of your examination made in 1906, you have specified in detail all of the structures of the canal and all of the different parts of the canal. Is that so?

A. Yes sir.

X Q. 4. You say that this map, Exhibit No. 2, is correct?

A. I could not swear it is correct because I didn't compile it, but in a general way it represents the relative locations of the
479 canals, as far as I remember it.

X Q. 5. You can if you wish, turn to your report, Exhibit A. Now taking that portion of your report which is entitled "Estimated cost of the headworks and sundry items of the San Joaquin and Kings River Canal & Irrigation Co. in Fresno County"—What portion of the works or dams shown in that portion of your report have been constructed since your examination of the canal made in 1896?

A. The San Joaquin River weir has been built since.

X Q. 6. That is the item which you have down in your report as costing $54,046.02?

A. Yes sir.

X Q. 7. And what is the next?

A. The headgate at China slough.

X Q. 8. And the next?

A. Machinery and tools.

X Q. 9. The next?

A. There is also the construction, or converting rather, of the China slough into a canal from a point about a mile below the headgates of the main canal.

X Q. 10. What point?

A. I don't remember exactly what point it would be, and I don't know how to get at that; but it is a little above the railroad bridge.

X Q. 11. To a point a little above——

A. The railroad bridge.

X Q. 12. The railroad bridge crossing what?

A. Crossing the canal, the main canal.

X Q. 13. We will call all these works since your examination of 1896, "New works" just for a matter of convenience. Is the new work last referred to by you identified separately in this portion of this report which you are now talking about?

A. I think you will find it under the head of "Earth works". This excavation of China slough also includes the dredging from the China slough headgate to its junction with the main canal.

X Q. 14. Well now will you first point out in your report what you have figured that new work is costing.

480 A. The excavation of the China slough seems to be $850.

X Q. 15. From what page of your report are you reading?

A. On page 1 of Fresno county.

X Q. 16. Excavating China slough?

A. $850.

X Q. 17. And was that all the new excavation for that work?

A. No, but I don't see how I can segregate that out of the main canal.

X Q. 18. I will ask you, was not all of the work that you have in your report of 1906 under the head of "China slough" new work?

A. Yes.

X Q. 19. It was all new work, was it not?

A. Yes.

X Q. 20. Now is the dredging that you have spoken of, included under the head of "Work, lumber and so on" under "China slough" in your report?

A. No, that would come under the head of "Excavation." In page 1 in Fresno county the earth excavation in the main canal—that portion of the China slough which I first enumerated there, I think must be included in it. I can better explain to you, from 1896 the canal started at the main headgate and was excavated for about a mile, when they entered a slough and used that slough for quite a distance. Since that time, in 1904, they started to excavate the slough to bring it up to the capacity of the main canal, which they had widened. They there put in a headgate in the China slough lying up the river a part of the way, and dredged that out.

X Q. 21. Now I will ask you: Can you not make a brief itemized statement showing what the new works had been and what you estimate their cost was in 1906, on the figures that you have given in your report of 1906?

A. Just at this moment I could not segregate that portion.

X Q. 22. How long would it take you to make that segregation?

A. I would have to look over and familiarize myself a
481 little more with that. I will explain, that that is earth excavation in the main canal, and it includes that portion of the slough which was excavated. Now just how much that was, I don't know. I can't say at the present moment. However, I don't think it is a very large item.

X Q. 23. But you could make that segregation, could you not?

A. I think I could.

X Q. 24. Will you do so after the close of your testimony?

A. I will try to do so.

X Q. 25. This outside canal mentioned in this portion of your report as costing $82,134.10, that was not included, was it, in your examination and report of 1896?

A. No, sir; and the outlet canals 1, 2 and 3 there, are new work.

X Q. 26. I understand, Mr. Goodwin, that the words "New work" refers to subsequent work, all kind of work that are in your report of 1906, that have been constructed or acquired by the canal company since your examination and report of 1896?

A. Yes sir.

Mr. LANGHORNE: I will ask that all the testimony of the witness in regard to the outside canal and the outlet canal be stricken out.

The MASTER: Strike it out.

(By Mr. LANGHORNE:)

X Q. 27. Now coming, Mr. Goodwin, to that portion of your report entitled "Estimated cost of the works of the San Joaquin & Kings River Canal & Irrigation Co., in Fresno county, California," the first item there is "Main canal, $106,215.48." What portion if any of that work is new?

A. The only thing to be added to the report of 1896 is the enlargement of the canal. It has been enlarged.

X Q. 28. The main canal has been enlarged since 1896?

A. Yes sir.

482 X Q. 29. Is there anything in your report of 1896 which would show the extent of that enlargement; that is, the earth excavated?

A. The only way you could arrive at that would be to take the 1896 report as to the yardage and deduct it from the yardage of this report. That would give the difference in cost.

X Q. 30. Do you know now what that difference is?

A. No, I do not.

X Q. 31. Can you estimate it?

A. No, I have not the report of 1896.

X Q. 32. If you had the report of 1896, could you estimate it?

A. No, because I don't think that is in that report. I took no notice of the county lines. It was done in the entirety. In that report I did not segregate as to counties. It might be a mere approximation.

X Q. 33. You could do it according to the mileage, could you not?

A. Yes, I could approximate it enough for estimating purposes.

X Q. 34. According to the mileage?

A. Yes sir; The same system was employed in 1896 as is employed at this time. The fact is that the same station—what we call stations, from the headgate—are the same.

X Q. 35. Will you then make an estimate of the new work or excavation as to this item "Main canal" that you have here?

A. I will if I can get hold of the report of 1896.

X Q. 36. I will give you a copy of the report.

A. All right.

X Q. 37. Now then, the next item, "Parallel canal, $50,200.16". That is in the same condition of the main canal?

A. That has also been enlarged.

X Q. 38. You can make the same kind of an estimate, can you?

A. I can, yes sir.

X Q. 39. The Dos Palos main canal, $42,558.68, how about that?

A. I will have to make an explanation of that. When I

483 made the estimate of 1896 I was not aware that the Dos Palos system belonged to the company, hence I did not take it in the estimate. I believe it was submitted and estimated as a whole. I would not dare to state whether it was $20,000 or $30,000. The record would show that.

X Q. 40. What was the estimate as a whole?

A. The Dos Palos system, that would be the Dos Palos main

canal and branches 1 and 2. I never went over the system until 1894. In fact, I didn't know that it belonged to the company in 1896. I don't know how we would get at that. There has been a great deal of work done there. It is in the Colony, you know.

X Q. 41. A good deal of work since 1896?

A. Oh yes.

X Q. 42. Taking your report of 1896, you could make some kind of an estimate, could you?

A. Yes.

X Q. 43. And in that report you can state how much of that Dos Palos canal, with its branch canals, was or was not included in your report of 1896?

A. The only thing I could do is just to take the total amount, the estimated cost, and deduct that which was included in the 1896, to bring it down to dollars and cents. I didn't know anything about the Dos Palos system.

It was in the estimate as a whole.

(By Mr. TREADWELL:)

X Q. 44. When you say you estimated it at $20,000 or $30,000, that was the estimate of the Board of Supervisors but was not included in your report?

A. Yes, it was either $20,000 or $30,000. I am not prepared to say that.

(By Mr. LANGHORNE:)

X Q. 45. Now in regard to the outside canal, $82,134.10, that was not included was it?

A. No that is entirely new.

X Q. 46. That outside canal was in course of construction, was it not, from 1896 until 1898, or 1899?

A. I think it was 1897 because when I made that report,
484 the engineers had just got on the ground to make the survey.

X Q. 47. They started in 1897?

A. It might have been in the Fall of 1896. I would not be positive.

X Q. 48. Did they not build it in 1899?

A. It might have been.

X Q. 49. Then the next three items, "Outlet canal No. 1, Outlet canal No. 2, Outlet Canal No. 3," are they new?

A. They are all new, yes.

X Q. 50. Then turn to that portion of your report of 1906 entitled "Estimated cost of works of San Joaquin and Kings River Canal & Irrigation Co., in Merced County;" how much of the first item, "Main canal, $74,069.12" is new?

A. That would come under the same head as the main canal in Fresno county. It has been deepened and widened.

X Q. 51. There is nothing in this report of 1906 showing new work is there—I mean, showing it separately?

A. No, not showing it separately. There may be several new gates,

outlet gates, stop-gates. That could all be determined by comparing them, as I said before, because they were under the same system of examining. Say, for instance, at Station 100 there would be a stop-gate, and there is so many feet of lumber in it; and the report of 1896, if that same stop-gate is there, would be the same, and if it was not there, it would be a new gate.

X Q. 52. You can make an estimate of that new work as to that item, "Main canal", can you?

A. Yes.

X Q. 53. Will you please do so?

A. All right.

X Q. 54. Now as to the next item, "Main canal extension A, $139,652.12"; Is there any new work as to that item?

A. Well there will be the customary stop-gates, outlet gates, and the increased amount of excavation.

X Q. 55. Will you make the estimate as to the new work in regard to that item?

A. Yes.

485 X Q. 56. Is that true also of the next item, "Parallel canal, $58,882.20"?

A. Yes sir.

X Q. 57. Will you also make the estimate as to that?

A. Yes.

X Q. 58. Now "Dos Palos main canal, $14,670.80", any new work as to that?

A. Well it will be just the same as I stated in Fresno county. In the report of 1896 there was a sum set aside for the whole of the Dos Palos system which is in Fresno, Stanislaus and Merced counties. I did not include it in my estimate of 1896.

X Q. 59. Do you mean that the board of supervisors in fixing the rates on your report in 1896 set the $20,000 aside? That is, that they allowed it?

A. No, they added to it.

X Q. 60. They added to your estimate $20,000 on account of the Dos Palos system? Is that right?

A. Yes sir, the whole of it.

X Q. 61 And you did not include it in your report?

A. No sir.

X Q. 62. Now in regard to the Dos Palos main canal extension item, $17,668.73, that would be the same?

A. That would be the same.

X Q. 63. Now isn't it a fact, Mr. Goodwin, that that Dos Palos main canal extension is new work, since 1896, all new?

A. You see I am a little indefinite on that because I was not over that system, in 1896, so I could not tell how much was built.

X Q. 64. But this Dos Palos main canal extension is new, is it not, since your report and examination of 1896?

A. Well, as I say, I was not over the work in 1896, so I don't know to what extent there was work there; whether there was new work or not.

X Q. 65. Now in regard to the Dos Palos branch canal No. 1.

A. Well, that is No. 1 2 and 3. They are all under the Dos Palos system.

X Q. 66. Do you know anything of the time when those were built? Do you know when any of them were built?

486 A. I do not; and I do not know to what extent in 1896.

X Q. 67. You made an examination and report in 1904, did you?

A. Yes sir, I did.

X Q. 68. Were these canals there then?

A. Yes, some of them were, but some of them have been extended.

X Q. 69. That is, since 1904 they have been extended?

A. Yes sir.

X Q. 70. Now which of them have been extended since 1904?

A. That I could not state at the moment. I would have to compare it with my report of 1904.

X Q. 71. Well, will you do that.

A. Well, if I can get a copy of the report. I don't know whether it is in existence.

Mr. TREADWELL: I will state that the complainant will produce evidence as to the dates of the construction of each of those canals mentioned in Complainant's Exhibit No. 1.

(By Mr. LANGHORNE:)

X Q. 72. Now the outside canal item, $86,716.32?

A. That is all new.

X Q. 73. "Outside canal extension"?

A. That is new too.

X Q. 74. "$74,828.57, outlet canal No. 4, outlet canal No. 5"?

A. That is all new work.

X Q. 75. "Canal station, improvements, $1,700".

A. That I would have to compare.

X Q. 76. Will you make an estimate as to what is new, in that report?

A. Yes.

X Q. 77. "Canal station horses, $200"?

A. I presume they are about the same as in the 1896 report.

X Q. 78. "Canal station carts and wagons"?

A. That would be the same.

X Q. 79. You can show the new with regard to those matters, can you?

A. Yes sir.

X Q. 80. Now this outside canal extension item, from what

487 point was that built, Mr. Goodwin?

A. Well, I am not familiar with any local people or names of local people. The only thing I could state would be in number of miles.

X Q. 81. No, that is not my question. Now the outside canal, what have you put down as "Outside canal" both with reference to Fresno and Merced counties, was the outside canal that extended to the Los Banos creek, was it not?

A. I think that was the first portion.

X Q. 82. Was this outside canal extension item—that would be the outside canal extension from Los Banos creek?

A. From Los Banos creek west.

X Q. 83. Yes, to its present terminus?

A. To the terminus at this time.

X Q. 84. Therefore, I understand you to say that the outside canal extension commences from Los Banos creek, is that right?

A. Well I would not be positive of that, though I think it does.

X Q. 85. I wish you would let me know positively.

A. Well I can tell how many miles.

(At the hour of 12 m. recess was had until 2 p. m., when the cross examination of the witness Robert H. Goodwin, was resumed as follows:

X Q. 86. Mr. Goodwin, if you will turn to that part of your report entitled "Estimated cost of works of San Joaquin and Kings River Canal & Irrigation Co. in Stanislaus county" and in regard to this item: "Main canal extension, $40,363.92", what portion of that, if any, was new?

A. There might be some gates, stop-gates, or something of that sort; but it is about the same.

X Q. 87. About how many stop-gates do you think might have been new?

A. Well I could not tell you. It is a good many years
488 since that 1896 report.

X Q. 88. For instance, in your itemized statement in regard to "Stop outlet gate, bridges, etc., main canal, extension, Stanislaus county", you figure the cost at $12,902.98. The new stop-gates then would be in that item, would they?

A. They were in that item.

X Q. 89. That is, as to that part of the canal?

A. Yes sir.

X Q. 90. Have you any means of arriving at what the new stop-gates and bridges &c. would amount to?

A. It would only be to compare them with the 1896 report.

X Q. 91. Do you remember whether or not your report of 1896 specified those things?

A. Oh yes, they specified what was on the canal at that time. The same method was employed in making this report as in the 1896.

X Q. 92. That report was made to the supervisors of Stanislaus county?

A. Yes sir.

X Q. 93. Now in regard to the next item, "Main canal, extension B, $29,097.50"?

A. I think the canal is practically the same, only there might be a few gates, more or less, added to this.

X Q. 94. The next item, "Orestimba Branch canal, $3,321"?

A. That is new.

X Q. 95. "Canal station improvements, $1500"?

A. I think that is practically the same.

X Q. 96. "Canal station horse, cart and wagon, $175"?

A. I think that is practically the same.

X Q. 97. Now I understood you to say in answer to counsel in regard to this report that you made in 1906, that the figures of cost given by you in that report were the figures that in your opinion the canal and works would cost to reconstruct or build anew at the time you made your report? Is that so?

489 A. Yes sir.

X Q. 98. And that your report contains no estimate or figures as to the depreciation of the woodwork or of the canal in any respect? Is that so?

A. That is right.

X Q. 99. It contains no estimate or figuring as to the filling up of the canal in any respect, does it?

A. I did not enter into that subject at all.

X Q. 100. Or as to whether or not the timbers or other woodwork were in good or bad condition?

A. Well, yes, I more or less looked into that.

X Q. 101. Well I say, did you figure that in this report?

A. No.

X Q. 102. You did not?

A. No.

X Q. 103. You see my questions are confined to this report.

A. Yes.

X Q. 104. Now these reports are dated December 24, 1906. You made this examination probably within sixty days prior to that date?

A. I did, yes sir.

X Q. 105. Is it not a fact that in December, 1906, redwood lumber mentioned in your report was much higher than ordinary?

A. It was.

X Q. 106. Do you know the cause of that?

A. I do.

X Q. 107. What was the cause of it?

A. The cause of the lumber being higher?

X Q. 108. At that time, yes.

A. No, I don't know the cause of it being higher.

X Q. 109. Don't you know that lumber, and the lumber mentioned in your report, were higher at that time on account of the financial condition and the prices of labor and material following the earthquake and fire in San Francisco in 1906?

Mr. TREADWELL: We object to that on the ground that it is incompetent, irrelevant and immaterial, the question is as to
490 the value of the property, not the cause of the value.

Mr. LANGHORNE: If your Honor please, the valuations which your Honor will finally be called upon to decide will be, "What is the reasonable value?" It is a question here of the reasonableness of rates. The complainant has introduced a report which we are now endeavoring to show and hope to be able to show was

made at a time when living and the cost of labor and materials entering into that construction were abnormally high, due to unusual conditions, and not a fair criterion as to the resonableness of the cost, and therefore would not be a fair criterion as to the reasonableness of the rate. And I think we have a right to go into that question so that your Honor can determine what was the reasonable cost of this canal.

The MASTER: I overrule the objection.

Mr. TREADWELL: We take an exception. (Question read.) We also object to it on the further ground that it has not been shown that this witness is a financial expert, competent to determine the cause of the financial disturbance or the increase in prices, and it is not cross examination.

The MASTER: I overrule the objection.

Mr. TREADWELL: We take an exception.

A. I don't think I am prepared to state what the causes were. They evidently were the prices ruling at that time.

(By Mr. LANGHORNE:)

X Q. 110. Well, your answer then is based on the ground that you are not competent, you say, to know why they were so high, why the prices were as high as they were? Is that it?

A. Well I have never looked into the question.

X Q. 111. Now you have redwood lumber charged in connection with your headworks in your report at $28 a thousand, and carpenter work at $10 a thousand on the lumber, and freight and hauling $10 a thousand, which would make the cost of redwood lum-
491 ber in place at the headworks, $47 a thousand. That is so, is it not?

A. Yes.

X Q. 112. Don't you think that that was an unusually high price for lumber of that character, and that character of work, to cost to be put in place?

A. I do not.

X Q. 113. Is not that much higher than it would cost to put that in place at the present time?

A. I think labor is about the same at the present time.

X Q. 114. How about lumber?

A. Lumber I don't know, at the present moment.

X Q. 115. And how about the carpenter work?

A. I think carpenter work is about the same at the present time.

X Q. 116. Weir boards in that same statement, at the headworks, are figured at $50 a thousand.

A. Those are selected, clear lumber, planed and milled on both edges; very select.

X Q. 117. You have got freight and hauling at $10 a thousand. How much was freight in December, 1906, on lumber used at the headworks?

A. I have not got the details with me, but that is easily ascertained at the railroad office.

X Q. 118. You have put it down here in your report and you have stated that it is correct, and I want to know how much it was.

A. I don't know at the present moment.

X Q. 119. Will you ascertain, then, how much it was?

A. I will, yes sir.

X Q. 120. To get lumber to those headworks? From what point did you figure the plant?

A. Mendota.

X Q. 121. From what point to Mendota did you figure?

A. From Oakland.

X Q. 122. You hauled from Mendota to the headworks?

A. Yes sir.

492 X Q. 123. How far?

A. Two or three miles.

X Q. 124. And what was the rate for hauling?

A. I have not got the details of that with me. I had a rate from the railroad company as to each station. I figured from each station to the limit of haul, for each structure. If the structure came within that limit I figured on the rate per thousand charg-able to that station, all along the way of line. Some places there were very excessive hauls. Probably taking the whole, I had to go from the depot to the structure they were building.

X Q. 125. A good deal of this estimate in regard to the headworks is based upon your ideas at that time of what it would cost to put that in place now?

A. Yes sir.

X Q. 126. Did you ever build any portion or superintend the building of any portion of those headworks?

A. No sir.

X Q. 127. That is, those particular headworks?

A. No sir.

X Q. 128. Now you have got included in regard to those headworks, "Incidental expenses, bolts, &c., ten per cent., $4466.65." How much of that was for bolts?

A. Well in estimating quantities we always make allowance for those things, small items that make up quite an item, that we don't make a notation of that are too small to take into consideration. The headworks that we speak of is a network of iron, iron braces, or tie-backs, rather.

X Q. 129. That is quite a large item, $4466.65. You have just got simply "Incidental expenses, bolts, &c."

A. Well, that is presumably brought in for estimation purposes.

X Q. 130. What were the incidentals?

A. Well, there were quite a number. There may be quite a lot of items there which you can't see; for instance, underneath the ground you can't see it.

X Q. 131. Well now, will you please tell us what the incidental expenses were, referred to in your item.

493 A. Well there would be superintendence, for one thing.

X Q. 132. You have got the following item, "Superintendence, ten per cent."

A. That is general, all over the whole works. But that particular item is a foreman; and nails, I believe, would come in that item. As a rule, in estimating we put in all the way from five to ten per cent. for incidentals. It has always been the practice to do so.

X Q. 133. From five to ten per cent.?

A. Oh yes, if we had a lumber bill, had the exact drawings and everything, of the structure, we could figure it right off, how much money the lumber would cost, how much lumber there would be in it, how many nails and how many bolts, or pieces of iron; but where a stranger comes with a piece of work we have to put something in for incidentals, and experience gives us the judgment that we have to put in from five to ten per cent.

X Q. 134. Then for incidental expenses, bolts, &c., you say from five to ten per cent., and you put it at ten in your report?

A. Well, some places you find five per cent.

X Q. 135. No, I am speaking of these headworks.

A. In that particular place I don't think ten per cent. would be a very large percentage for incidentals.

X Q. 136. What would be those incidentals expenses?

A. Well, that would be simply things that make up.

X Q. 137. For instance?

A. Well those things that you might possibly leave out.

X Q. 138. What?

A. You might possibly have left out some things from the construction of the structure.

X Q. 139. I don't think I follow you exactly. Do you mean to say that if the contractor made a mistake, that the owner would have to supply it?

A. I mean to say this, that this particular structure is on the ground there; I have no means of knowing what is under-
494 neath it. I could imagine what was underneath it and build an ideal structure like it. Now for fear I missed anything like that, I generally used a quantity to overcome anything that is missed.

X Q. 140. Then that represents the product of your imagination of what might be underneath the structure?

A. Yes, it might be.

X Q. 141. Then the next item is: "Engineering, general superintendence, &c., ten per cent., $4,913.31." Now I understood you to say that the former item that I have been asking you about, included superintendence?

A. Well there is a superintendent and there has got to be a foreman. The general superintendent would be over the whole work. There is a general superintendence on the canal, and there is an engineer on that work all the time, and there is lots of items in that; lawyers generally get in, too, somehow.

X Q. 142. Well, did you really—now I am not joking about that, but did you really figure in lawyers' fees?

A. Well I generally do on any estimate like this. I have generally put in something for attorneys' fees.

X Q. 143. Well now, Mr. Goodwin, what other items? This

report, which you say is correct, in your opinion, of the cost of these headworks, and you put it down here, you lump it here, as "Engineering, general superintendence, &c., ten per cent, $4,913.31." Now how much of that is for engineering?

A. Well you might take about 6 per cent. of it for engineering.

X Q. 144. Then you mean 6 per cent. of the cost, do you?

A. Six per cent. of the estimated cost, yes.

X Q. 145. Then you include in the estimated cost in the item just above that, "Incidentals, bolts, &c."

A. Well that *it* little small detail portions of it. There
495 is lots of numerous little things that a man don't see in a structure. If we take just exactly what we could see, there probably would not be very much of an estimate.

X Q. 146. Did you, when you made up this report, sit down and figure out those things in an itemized way?

A. That estimate was made in 1896.

X Q. 147. No, I beg your pardon, I am talking about your report of 1906.

A. I am only explaining where I got these figures. That particular head-gate is of the main canal.

X Q. 148. Yes, the San Joaquin River weir headworks.

A. I had the plan on file in the irrigation company's office. I had access to that, so that I got at the lumber. Since that was done, since the plan itself was made, which I believe was somewhere along in the Eighties, there have been additions made to it, and in supplying those additions I don't know that I got them all. So that I made the usual allowances for it. It has been customary in all estimates to allow five to ten per cent. on the estimate, because in structures in place where a man can't find the whole detailed drawings, or the whole lumber bills, he has got to make allowance.

X Q. 149. Then in making this report you guessed some things, or rather, you imagined them?

A. Well I had to.

X. Q. 150. Now you have put an item here in that same headworks matter, of "Earthwork excavation and back-fill, $3,000." How much was the excavation of that $3,000?

—. Do you mean in yardage?

X Q. 151. Yes, cubic yards.

A. I have not any data at present on that.

X Q. 152. How much in cubic yards of back-fill?

A. Well it would be merely in closing the structure after it has been once excavated. At that point there it was very dif-
496 ficult to get at it, right in the river bed. Now, for instance, here is a lot of incidental expense before that work could be done, we had to throw a cofferdam around it. That cofferdam was not in there.

X Q. 153. You are not getting at that?

A. No sir, it is not in there at all. It is one of the incidental expenses attached to that work, false work. Probably that coffer-

dam was necessary, but I didn't put it in there. Probably the cofferdam cost more than the headgate itself.

X Q. 154. How much was the hauling a thousand from Mendota at that time, December 1906?

A. I have not got the exact figures. I just put the hauling and freight all together. It was all figured up per mile, from each station, for the material.

X Q. 155. Now you figured in the cost of the headworks, a dredger at $10,500?

A. That cost was given to me from the office, as the exact cost.

X Q. 156. Now a pile driver at $330. Did the company have the dredger and the three pile drivers which you have mentioned here in connection with the headworks?

A. Well the pile-drivers were lying around the headgates. The dredger was working down on the line away from the headworks, about a couple of miles.

X Q. 157. Is that a dredger of the kind that can be used for cleaning out the canal?

A. Yes sir.

(By Mr. TREADWELL:)

X Q. 158. That dredger is not put in anywhere else in your account, is it?

A. No sir.

(By Mr. LANGHORNE:)

X Q. 159. I notice that your figures for excavation and earthwork, for the majority of it, is ten cents a cubic yard. Isn't that rather a high figure for that?

A. Not at that time, no sir.

X Q. 160. It would be in ordinary times, other times, would it not?

497 Mr. TREADWELL: We object to that on the ground that it is indefinite as to what are ordinary times or what extraordinary times. Besides, it is entirely irrelevant and immaterial.

The MASTER: The suit was brought in September, 1907. I suggest to counsel that he qualify his question.

(By Mr. LANGHORNE:)

X Q. 161. How would it be in September, 1907? Would it be ten *per cent.* per cubic yard at that time?

A. I think it would and probably more. I don't think it would be done at ten cents at that time.

X Q. 162. You have no estimates, though, of the costs as to these works after December 24, 1906, have you? You made no examination of these works or estimates after that date?

A. No.

X Q. 163. That was the last time you made any estimates?

A. The last time.

X Q. 164. Now you say that you made your report out separately in regard to each county, and you have testified here what portion

of these works, in your opinion, was used and useful to water users of each county? Is that so?

A. Yes sir.

X Q. 165. Now you have made a charge of the cost of the headworks, $84,732.23, which I understand from your report to be your estimate of the cost of the entire headworks of the canal. And as I understand your testimony, you say that that is useful and used by the water users in each of the three counties?

A. Yes sir.

X Q. 166. And yet you charge at full cost to the water users of each county, that item?

A. I don't attempt to segregate.

X Q. 167. Well, that is all right. I merely want to get the fact before his Honor.

A. A certain portion of it goes to——

X Q. 168. And in arriving at the cost you charge each county with the total cost.

498 Mr. TREADWELL: He don't do anything of the kind. The witness has testified that he put that in at a certain price. You are drawing your own conclusion.

(By Mr. LANGHORNE:)

X Q. 169. Now is this canal, the canal of the complainant here, of which you have given these figures of cost of the headwork and so on, is it used to carry any waters that do not belong to the complainant in this case?

A. Well I do not know whether the waters belong to them or not. They take it out of the river and it flows in their canal. Whether that water belongs to them or not I am not prepared to say.

X Q. 170. Probably you may not be able to know, but do you know of a canal that passes out of this canal here, you understand, that you have described, from this headgate that flows off down by Firebaugh, or the canal that flows to Miller & Lux?

A. That is the Poso canal?

X Q. 171. Yes.

A. That is not included in this estimate.

X Q. 172. We will now refer to this Exhibit 2. Now will you indicate, please, on Exhibit 2—What do you call it?

A. We always call it the Poso canal.

X Q. 173. The Poso canal where it connects with this main canal?

A. It is about 600 feet southeasterly from the Southern Pacific railroad crossing of the main canal.

X Q. 174. And that Poso canal is not shown on that map?

A. Why yes it is; taking out near the place called Firebaugh's outlet.

X Q. 175. Firebaugh's outlet?

A. Yes sir.

Mr. LANGHORNE: I respectfully submit that he is not pointing to a canal, and there is no canal shown on the map at all.

Mr. TREADWELL: We will make it "line", if you want it.

Mr. LANGHORNE: It is an unmarked line on the map.

499 X Q. 176. How wide is that Poso canal? What is the cross section of that Poso canal as it leaves the main canal?

A. The base is probably ten feet.

X Q. 177. And how deep is it?

A. From the end cut, do you mean?

X Q. 178. Yes.

A. Well the end cut there I suppose would be about a foot; may be a foot and a half. I have never measured this bank. It is only just from memory.

X Q. 179. What is its capacity in cubic feet?

A. That I could not tell you. I don't know the grade of it. I have never examined it, never paid any attention to it.

X Q. 180. Do you know to whom that canal belongs?

A. No.

X Q. 181. Do you know it takes water out from this main canal, that is turned into the main canal of complainant, the subject matter of this suit, waters that are turned into it from this main weir and from the headgates that you have testified about? You know that?

A. Yes sir.

X Q. 182. And you have not made any estimate in your report of the waters carried through that Poso canal?

A. No.

X Q. 183. Have you in your estimates charged Miller & Lux or any other persons with any part of the expense of constructing the main weir and the main canal shown in your report, on account of carrying any waters through this canal?

A. No sir. I merely have made an estimate of the cost in place of the work.

X Q. 184. You know as a matter of fact, do you, Mr. Goodwin, whether or not water is carried from this main canal covered by your estimates into this Poso canal?

A. Oh yes, there is water carried there.

X Q. 185. And that is the way this Poso canal gets its water, is it not, by the use of the main weir and the headgates that you have estimated on, and the main canal?

A. Yes sir.

500 X Q. 186. And how far is it, about, from the intake, we will say, of the Poso canal, from this main canal, to the headgates of the main canal?

A. I think that is about five miles; somewhere in the neighborhood of that.

X Q. 187. Now I asked you a while ago how deep that Poso canal was made.

A. You asked me if I made the cut, yes.

X Q. 188. Now it is banked up some, is it not?

A. That dirt is put over the banks, of course.

X Q. 189. What is the depth of it, in regard to its carrying capacity?

A. I would have to give you this from remembrance. I would imagine that it might carry two feet in depth, though that might

possibly crowd it to the bank. That I am not prepared to state. The fact is, I paid no attention to it.

X Q. 190. You could not tell then what its cross section was?

A. No. I would say I would imagine it was about ten feet, as I recollect it.

X Q. 191. At the base?

A. At the base. And I should think from the nature of the country, that it would have to go over a foot or a foot and a half to make the bank; from a foot to a foot and a half.

X Q. 192. And they have piled up the dirt on the sides to make the banks?

A. They have piled up the dirt on the sides to make the banks, yes. That might make a carrying capacity of two to two and a half feet. The slopes would probably be about, naturally, one and one-half to one, probably. Sometimes they build them two to one.

X Q. 193. So that this weir or dam in the San Joaquin river and these headgates that you have been estimating on here as costing some $84,000, are used not only to carry water through the main and parallel and other canals on which you figured in your report, but also water into this Poso canal which is not shown on Ex-
501 hibit 2, and concerning which you have not figured?

Mr. TREADWELL: We object to that on the ground that it assumes facts which are not shown here.

The MASTER: I understand that counsel means in that, that it is not named as a canal.

Mr. TREADWELL: As I understand it, the map and the report of the witness do not show any distributing canals which lead out of this canal, which belong to other people. Now we do not claim that this canal which you are talking about belongs to us. It is simply a distributing canal. There are several hundred of them along this canal. Now what is the use of asking this witness if this headgate is used for the purpose of diverting water into the distributing ditch which is not mentioned here, when he does not purport to mention any distributing ditches which do not belong to the complainant.

The MASTER (after argument): I overrule the objection.

(Question read.)

A. Yes.

(By Mr. LANGHORNE:)

X Q. 194. When you made this estimate and report, Mr. Goodwin, did you ascertain from the complainant in this case as to what canals and parallels and property generally they wished you to examine and to include in your report?

A. Yes, I got the items of all canals that belonged to them.

X Q. 195. Now in regard to the outside canal, so called, in Fresno county, your report shows that in Fresno county you estimated the outside canal as costing $82,134.10, and in regard to the outside canal in Merced county—not the extension, you understand; the outside canal; that is, as I understand it, the Los Banos creek—you said they cost $86,716.32. Those added together would make

$168,850.42 that that outside canal cost down to Los Banos creek, according to your figures.

502 Mr. TREADWELL: Would have cost if constructed in 1906?

Mr. LANGHORNE: Yes, would have cost if constructed in 1906. What in your opinion would be the percentage of increase of cost of that canal between, say, 1897 and 1898, when it was built, and 1906, when you made the estimate?

A. Well I don't know. The cost of the works, property, is——

(By Mr. LANGHORNE:)

X Q. 196. It was mainly excavation, wasn't it?

A. Yes, it was mainly excavation.

X Q. 197. What do you think would be the increase in that time?

A. From 1896 to what time?

X Q —. From 1896, 1897 and 1898 that was being built, wasn't it?

A. In 1896 labor was very very low, and I don't know what it was in 1897. I can't recollect at the moment.

X Q. 199. What in your opinion would be the increase, the average increase, in cost of constructing that outside canal?

A. At that time, in 1897?

X Q. 200. Between 1897, when it was constructed, and 1906.

A. Oh, 1906?

X Q. 201. Well, when you gave your figures?

A. If I had my figures as to what it cost in 1897——

X Q. 202. I am asking your opinion. You are here as an expert You made an examination in 1896?

A. Yes, but that was not——

X Q. 203. Yes, but the other canals were right along.

A. If you said in 1906 I could tell you, but you are bringing it one year after. There might be a difference of fifty per cent.

X Q. 204. Do you think it would be fifty per cent. higher now?

A. No, I don't think it would be fifty per cent. higher.

X Q. 205. Do you think it would be thirty per cent. higher?

A. No, I don't think that. You might call it fifteen to twenty per cent.

X Q. 206. Fifty to twenty per cent. When? In 1906,
503 than when it was built in 1897 or 1898?

A. I don't know when it was built.

X Q. 207. Well, that was when it was built.

Mr. TREADWELL: I think Mr. Goodwin is trying to testify to a comparison between 1896 and 1906. He refused to testify as to 1897 and 1898. He don't know anything about it, as I understand it.

Mr. LANGHORNE: He is put on as an expert. He examined the parallel canals in 1896.

X Q. 208. That was your testimony, was it not?

A. Yes.

Mr. TREADWELL: Then you asked him about 1897.

Mr. LANGHORNE: What difference would it make between 1896 and 1897?

A. It might make a good deal of difference.

X Q. 209. Well then, what would it be in 1896?

A. Well I can't tell you that. I think it would be at least fifty per cent.

X Q. 210. You think it would be at least fifty per cent.?

A. At least forty or fifty per cent.

X Q. 211. In 1896?

A. Yes.

X Q. 212. Then between 1896 and about 1898 there must be a difference, according to your figures, your testimony, of about twenty per cent.?

A. Well now, that is only just guess work, because I have got nothing to go by. I could not tell you the prices of labor in 1897.

X Q. 213. Would you be surprised to know that the books of complainant's predecessor in this case, that built that canal, show that it cost $85,000 and over?

A. For the same work?

X Q. 214. Yes sir; the same work that you estimate in 1906 as $168,850, cost when it was built between 1896 and 1898 something over $85,000? Now if I am correct in saying that the complainant's predecessor canal company's own books, its own minutes, show that that was the case. Don't you think, Mr. Goodwin, that
504 your estimate made in 1906, about ten years afterwards, which is nearly one hundred per cent. more, is somewhat high?

Mr. TREADWELL: Now if the court please, I object to that question. First that it assumes something that is not in evidence as to what their books do show. And by the way, we deny any showing of the kind. And in the second place, it is purely hypothetical, and in the third place, a witness cannot be asked whether he would give some other testimony if someone else testified differently.

The MASTER: I sustain the objection.

(By Mr. LANGHORNE:)

X Q. 215. Now Mr. Goodwin, in regard to your report as to the canal in Fresno county, you have an item "Stock and outlet gates, bridges, &c., $20,945.33; and then as I understand it, you have a list of the stock and outlet gates following that?

A. Yes sir.

X Q. 216. And of the bridges. And in that you have made practically the same figures as to the cost of the lumber as you had in regard to the headworks. In some cases it seems to be a little less for carpenter work. In some cases $7 a thousand, and in some cases $9 a thousand. And generally I presume what you did was you went on the ground and you measured the lumber and so on in place, and then took your notes and when you got back to the office you figured it out what it would cost at what you considered the prices at that time?

A. Yes sir.

X Q. 217. That is about the way you did it?

A. Yes sir.

X Q. 218. And that in your opinion and in regard to these different parts of the works, the incidental expenses and the freight and the hauling and the carpenter work would be about so much, if it was done at that time?

A. At that time, yes sir.

X Q. 219. Now your earth excavation of the main canal,
505 that is the large part of it, the item 732,900 cubic yards you charge at ten cents per cubic yard. Was that the ruling price at that time?

A. I think it was worth that at that time, according to the width of the canal and the haul and the character of the soil and the price of labor.

X Q. 220. Isn't that rather high, don't you think, generally?

A. I do not. I think that is a very fair figure at that time.

X Q. 221. At that time?

A. Yes.

X Q. 222. Well it was higher though in December 1906 than at other times, than usual?

Mr. TREADWELL: We object to that on the ground that he has no right to ask the witness what is usual. There is nothing that can be said to be usual in a matter of that kind. And the question is indefinite.

The WITNESS: I can give you a little comparison if you want it. In 1891 my superintendent in some of the contracts in a hydraulic irrigation district, the Turlock Hydraulic Irrigation District, when labor was very cheap, the contractor figured at seven cents per cubic yard. That is a matter of record. And the contractor didn't go to Europe afterwards either.

X Q. 223. Haven't you figured all of these items here as to—for instance, as to these pieces of work, on the theory that they would be done under separate contracts?

A. No I did not. I tried to be just in all that, and considered that that would be a work of large magnitude.

X Q. 224. Did you make your figures on the theory that the entire work would be done by one contractor, under one contractor?

A. Yes, in a way; but still not that, because a work of that magnitude could not be done in one or two years.

X Q. 225. Well, one contractor might put a dozen gangs on it.

A. Yes, but it would be a very hard proposition for one
506 contractor to get the men to do that work.

X Q. 226. Well, I am just asking you what you did?

A. Well I tried to do it in a large body, in a large batch.

X Q. 227. For instance, did you put the headworks in one batch by themselves?

A. Yes, I probably would do that, because it is right near the station. It would require a camp by itself and it would be a long job and that would be practically one job.

X Q. 228. Have you figured the canals and work in Fresno county as though it were being done in one job?

A. No sir.

X Q. 229. You did not?

A. No, I figured it as though it was a continuous job, right straight along from the beginning to end.

X Q. 230. That is what I asked you, in one job?

A. Yes in one job; practically in one job, right straight along. Just as soon as I finished one, I went to another. I paid no attention to county divisions.

X Q. 231. And you think then that if the contractor at that time was figuring on that whole work from the day of beginning to the end, in Stanislaus, on all these works, that this would be the figuring of cost?

A. I think it would probably be a little higher. Take cases of assorted goods where you are probably ten miles from any house. Now I did not take that into consideration. I presumed that they would have gangs going right straight along, for instance, work on this stopgate and then go to the next one and finish that stop gate, and carry their camp right along with them.

X Q. 232. Mr. Goodwin, attached to the affidavit of Mr. S. B. Mitchell that was filed in this case on motion in regard to complainant's application for injunction pendente lite, is what purports to be a copy of a report to the board of supervisors, dated June 9, 1893, to the board of supervisors of Stanislaus county, in regard to
507 the canal of complainant's predecessor at that time. I will ask you to look at that and state whether *nor* not that copy of your report is correct, is a copy of the report that you made at that time?

Mr. TREADWELL: We object to the testimony as incompetent; that is is not the best evidence; that the report itself is the best evidence; this is secondary evidence and is not admissible.

The MASTER: I overrule the objection. Let the witness answer whether it is a copy.

A. I made a report of that date, but whether it is a copy I cannot state.

(By Mr. LANGHORNE:)

X Q. 233. Have you read it over?

A. I have, and it has been ten years since I read it over before.

X Q. 234. Is there anything about it—you say you have read it over—which leads you to think it is not a copy?

Mr. TREADWELL: I object to that. It don't make any difference whether there is anything which leads the witness to think one thing or another.

The MASTER: As the witness states that he is unable to verify it, need not now discuss it.

(By Mr. LANGHORNE:)

X Q. 235. Do you remember, Mr. Goodwin, at what rate you figured earth excavation at the time when you made the examination for Stanislaus county in 1896, as to this canal?

A. Six and one-half cents.

X Q. 236. Do you remember at what figure you then figured the cost in place, that is, the cost of the lumber and hauling and the carpenter work on the lumber, board measure, that was in this canal in June, 1896?

A. I could not tell the price of the lumber in place. If I remember rightly, the lumber was taken at something like $15. I think there was a little difference—in fact, I think there is a good deal of difference between the redwood and pine.

508 X Q. 237. You don't remember what the average was, do you?

A. No, I do not.

X Q. 238. You were asked by counsel in regard to a portion of these canals and works that were useful to water users in each county, and that in regard to some of those canals, what you call outlet canals, that they might be useful to Stanislaus, but you had not included them.

A. Not at all.

X Q. 239. That is right. Those outlet canals are those little canals that connect the outside canal with the main canal?

A. Yes sir.

X Q. 240. The outside canal is at a higher elevation than the main canal, as I understand it?

A. Yes sir.

X Q. 241. I notice that you have included here in your report "Machinery and tools for the headgate works, $12,120." And the figuring on that is that they were consumed in the work? Is that the idea?

A. No, that is the property on hand.

X Q. 242. And that $12,120 then would be machinery and tools used for construction of that headgate work and would be left there, would they not, at that place?

A. Well no, not necessarily on that work, at that particular place. For instance, that dredger is doing the work of excavating all the way along, as I understand, and was at work when I was there, on the China slough. The pile drivers were lying at the headgates. The tools, I suppose, of course, they are being used every day.

X Q. 243. You have charged in that estimated cost as to the works in Merced county "Canal station improvements." What canal station improvements are there, as a matter of fact?

A. Just a house and barn and probably fencing.

X Q. 244. This $1,700 item is your own estimate of what it would cost in 1906 to reproduce that? Is that it?

A. Yes sir.

X Q. 245. And the "Canal station horse, $200." There were actually horses there?

A. Oh yes. I believe at each station they have two or

509 three horses and a cart or two.

X Q. 246. Carts and wagons at $56.50. That is for Merced county. Then in Stanislaus county you have got "Canal station

and improvement, $5,200." There are actually canal station and improvements for that county, $5,200?

A. Yes sir.

Further hearing adjourned to Wednesday, October 14, 1908, at 2 p. m.

THURSDAY, *October* 15, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of ROBERT H. GOODWIN, resumed.

By Mr. LANGHORNE:

X Q. 247. Mr. Goodwin, I understood you to say the other day in the course of your examination that you made an examination of the complainant's canal for the board of supervisors of Stanislaus county and a report, in 1896, in reference to the fixing of rates by that county for that year. Is that so?

A. Yes sir.

X Q. 248. I now hand you a document produced from the files of the County Clerk of Stanislaus county, endorsed: "Report of engineers as to value of San. J. and K. R. Canal and etc. Filed June 10th, 1896. A. S. Dingley, Clerk, by L. H. Hammett, deputy," and addressed: "To the honorable the board of supervisors of the County of Stanislaus, State of California," purporting to be signed by yourself, R. H. Goodwin, as consulting engineer, and dated "Modesto, Cal., June 9th, 1896;" and also purporting to be signed by E. D. Grove, Deputy County Surveyor. I ask you
510 if that is the report that you referred to.

A. Yes sir.

Mr. LANGHORNE: If your Honor please, we offer this in evidence and ask that it be designated "Defendants' Exhibit A," and ask permission to withdraw it and restore it to the records.

Mr. TREADWELL: We have no objection to this report, so far as it covers matters covered by the examination of the witness, but we object to that part of the report which purports to set forh the value of the right of way of the company per acre, on the ground that it does not relate to any matter as to which the witness has testified; and we also object to that part of the report and to its admission in evidence which sets forth an estimate of the maintenance account of the company, on the ground that that does not relate to any matter as to which the witness has testified, and is not in contradiction or explanation of anything that he has testified to. This last portion which we object to begins: "We give the following very liberal items of annual expenses for maintenance of the above mentioned canal," and ending with "total expenses," giving the total.

Mr. LANGHORNE: If your Honor please, of course the witness has testified that he made this report, and we offer it as the report which he said he made. Now if it be true, as counsel states, that he has not testified in regard to that portion to which counsel objects, of

course he could not be examined on that in connection with this report, as to the value of lands or as to his expenses, and if I should ask any such questions, the counsel may object.

The MASTER: I overrule the objection.

Mr. TREADWELL: We take an exception. Now it may be stipulated that the report, subject to our objection, may be copied
511 into the record, and that the original may be withdrawn.

(Following is a copy of the document designated "Defendants' Exhibit A":)

To the honorable, the board of supervisors of the County of Stanislaus, State of California.

GENTLEMEN: As per request of Supervisor Mr. J. P. Barnes, we have made a survey of the canal belonging to the San Joaquin and Kings River Canal & Irrigation Company, and herewith submit the following report and estimated cost of the canal, ditches, water chutes, and all other property actually used and useful to the appropriation and furnishing of water from such canal.

The canal is located on the west side of the San Joaquin valley, being, lying and situate in the Counties of Fresno, Merced and Stanislaus, State of California.

The length of the main canal is 71.17 miles, 26.77 miles of which being double, making a total distance of 97.94 miles of constructed canal.

The width of the canal varies from 25 feet to 40 feet, but the majority is of 30 feet base.

39.97 miles was constructed in the year 1872, 28.87 miles in 1878, and 4.10 miles in 1884. The banks of the canal are in very fair order, but the bed is badly silted in many places.

The upper 30 miles of the canal passes through a thinly settled and unimproved country. The balance of 41.17 miles through a productive and fast-growing district.

The following is an estimated cost of construction of the above mentioned canal, taking into consideration the different widths, cross sections, grades, materials, and appurtenances based on the prices of materials, supplies and labor of the present date.

Earth excavation 2,966,125 yards at 6-½c	$192,798.10
Lumber in head, regulating, distributing, waste and inlet gates, boxes, bridges, etc., 1,689,410 feet B. M. in place	55,536.50
Six station buildings	4,000.00
Telephone line, 70 miles	4,900.00
Engineering, superintendence, offices of company, stationery and printing, law expenses, and other incidentals	25,723.40
Right of way, first 30 miles, 900 acres at $3.00	2,700.00
Right of way, balance distance, 1,068 acres at $25.00	26,700.00
Total cost	$312,358.00

Cash Value.

We place the present cash value of the above mentioned canal and works at $251,000.00.

We give the following very liberal items of annual expenses for maintenance of the above mentioned canal:

512	500 salary secretary	$1,800.00
	Salary superintendent	1,800.00
	Salary 6 section men at $45.00	3,240.00
	Office rent	300.00
	Stationery and printing	150.00
	Rent of 7 telephone boxes	140.00
	Batteries	25.00
	Feeding 10 horses	1,080.00
	Annual pro rata on cost of 10 horses	65.00
	Annual pro rata on cost of buggy and carts	80.00
	Annual cleaning canal of silt and weeds	1,500.00
	Annual repairs on bridges and gates	320.00
	Annual repairs on Brush dam	500.00
	Annual taxes, approx	2,100.00
	Annual travelling and incidental expenses	150.00
	Total expenses	$13,250.00

Modesto, Cal., June 9th, 1896.

Respectfully submitted,

R. H. GOODWIN,
Consulting Engineer.
E. D. GROVE,
D'p'ty Co. Surveyor.

Indorsed: Report of engineers as to value of San J. and K. R. Canal *and* etc. Filed June 10th, 1896. A. S. Dingley, clerk, by L. H. Hammett, deputy.

(By Mr. LANGHORNE:)

X Q. 249. Mr. Goodwin, there is an item in your report of June, 1896, "Lumber in head, regulating distributing, waste and inlet gates, boxes, bridges, etc., 1,689,410 feet B. M. in place, $55,536.50." Did you make in connection with that report and the item I have referred to at that time, or about that time, any detailed statement?

A. Yes, sir, I did.

X Q. 250. I hand you a document produced from the office of the clerk of the board of supervisors, entitled "Lumber estimate in the head, regulating, distributing, waste and inlet gates, boxes and bridges on the San Joaquin and Kings River Canal & Irrigation Co.'s canal, 1896," and consisting of 37 pages, and purporting to be signed by yourself as consulting engineer.

A. Yes, sir.

X Q. 251. You recognize that document?

A. Yes, sir.
X Q. 252. And you made that at that time?
A. I did.
X Q. 253. In connection with your report?
A. I did.
513 Mr. LANGHORNE: If the court please, defendants offer that in evidence and ask that it be designated as "Defendants' Exhibit B."
(The document referred to was not marked as an exhibit, it being understood that after the close of the case defendants would apply to the court for leave to withdraw the same.)

X Q. 254. In your report, Exhibit A, Mr. Goodwin, in regard to the item I have mentioned of "Lumber in head, regulating distributing, waste and inlet gates, boxes, bridges, etc., 1,689,410 feet, B. M. in place," does not the expression "in place" used in that item mean that the price you have given, namely, $55,536.50 covers the cost of the lumber, the freight and the hauling and the carpenter work and nails and all other expenses covering the lumber as a completed structure in place?
A. Yes, sir.
X Q. 255. Now in Exhibit A, you give the total cost as $312,358, and then following that you say in your said report, "Cash value. We place the present cash value of the above mentioned canal and works at $251,000." That is a difference of $61,358?
A. Yes, sir.
X Q. 256. What did you intend that difference to represent?
A. Depreciation.
X Q. 257. Did you mean then, by depreciation, that in June, 1896, it would cost $312,358 to construct the canal?
A. Then?
X Q. 258. Then.
A. Yes, sir.
X Q. 259. But that it had depreciated from the time of its construction up to the time of your report in the sum of $61,358? Is that right?
A. Yes, sir; that was the intent and purpose of that.
X Q. 260. What was the nature of that depreciation?
514 A. The canal and all the structures on it were in very bad condition at that time.

(By Mr. TREADWELL:)

X Q 261. Referring to 1896?
A. In 1896. That is the time of the report. The banks were covered with weeds, were badly silted, filled up, like, in a great many places, and the gates had not been properly maintained.

(By Mr. LANGHORNE:)

X Q. 262. But now in regard to the silting. That is, as I understand, a filling up of the bed of the canal from the matter carried in suspension by the water?
A. Yes, sir.

X Q. 263. And you arrived at that item of depreciation, I presume, by taking cross sections of the canal at that time?

A. Yes, sir; I took a great many cross sections and adopted what I found in the original as compared with the sections at which I arrived at the excavation.

X Q. 264. Then you estimated what it would cost per cubic yard to remove that?

A. To remove that.

X Q. 265. What was your estimate as to the cost of removing that at that time?

A. I have forgotten that.

X Q. 266. You remember testifying, don't you, before the board of Supervisors, in June, 1896, as to that matter?

A. I believe I did, yes.

X Q. 267. Didn't you then testify that it would cost ten cents a cubic yard to remove it?

A. I don't remember as I testified to it, but surely it would cost that.

X Q. 268. Now then, in regard to the report, Complainant's Exhibit 1 here, you reported as to the cost of the canal from an examination you made in December, 1906. You stated in that report, you gave no estimate or figures as to the depreciation?

A. No, I did not.

X Q. 269. Well, when you made your investigation in
515 1906 of the canal, did you observe any depreciation?

A. Yes, I took considerable note as to the depreciation.

X Q. 270. Why didn't you show it in your report Exhibit 1?

A. I was instructed to prepare an estimate of cost of reproduction.

X Q. 271. Didn't you understand that you were making that investigation and making that report with the idea of bringing before the board of supervisors of Stanislaus county and the other counties in the matter of fixing rates in 1907, the value of the canal and works of the complainant?

A. I presumed at that time it was for that purpose.

X Q. 272. Did you not know that a mere estimate or figures as to the cost of reproduction would not be the value of those works?

Mr. TREADWELL: We object to that on the ground that it involves a question of the opinion of the witness as to what the proper method is and the proper basis of fixing the value; that whatever he may think would be entirely immaterial—whatever he may have thought.

(By Mr. LANGHORNE:)

X Q. 273. Were you given any instruction by the complainant,—and when I say "complainant," I mean any of its officers or agents in authority—to make any examination and estimate as to the depreciation of the canal and works?

A. No, sir.

X Q. 274. You were given none?

A. No, sir.

X Q. 275. Well, did you make any thorough examination as to that matter?

A. No.

X Q. 276. I mean in 1906?

A. No, I did not.

X Q. 277. You did not?

A. No.

X Q. 278. You went over the works, did you not, in 1906?

A. Yes, sir.

516 X Q. 279. And you went over the works and made an examination also in 1904?

A. Yes sir.

X Q. 280. Well, did you, in going over the works—I understood you to say that in 1906 you did observe that there had been a depreciation?

A. To some extent, yes.

X Q. 281. And to what extent, Mr. Goodwin, on an average, say?

A. That is a pretty difficult question to solve. It can't be done in one minute.

X Q. 282. Now you were examined as a witness, were you not, when the matter of fixing rates in June 1907 was before the board of supervisors of Stanislaus county?

A. 1907?

X Q. 283. Yes sir.

A. Oh yes.

X Q. 284. And were you asked on that examination any questions as to the extent of the depreciation of complainant's plant?

A. I believe I was.

X Q. 285. Are you sure of that?

A. Well I would not be positive. My memory is not very clear upon that.

X Q. 286. Now I ask you, didn't you have a conversation with Mr. L. J. Maddux, district attorney of Stanislaus county, on June 25, after you had been examined as a witness before the board of supervisors of Sanislaus county in the matter of fixing rates for this canal company for the year—well in June 1907, at the Court House in Modesto, in Stanislaus county, in which conversation you stated to Mr. Maddux that in your opinion the plant and works of the complainant canal company had depreciated to the extent of fifty per cent. from its cost of construction, and that you would have so testified on your examination at that time before the board of supervisors, if you had been asked the questions?

A. I did not. I don't remember of any such conversa-

517 tion at all. I never had two minutes' conversation with Mr. Maddux.

X Q. 287. I understand your testimony now to be that while you observed some depreciation, that you made no detailed examination as to that particular matter in 1906, and are unable now to give any estimate of such depreciation. Is that so?

A. As to each structure, I don't think I could. Depreciation and appreciation are two things to be considered in a canal system.

Structures like stop gates, outlet gates, waste gates, in a way, appreciate in value as to their usefulness of delivering water or controlling water. For instance, perhaps two thirds or three-quarters of the lumber in a structure is in the base. That portion of it does not depreciate. In fact I think it appreciates. A new structure would not hold the water. The longer the structure is in, as long as the lumber remains solid, it is a better structure than a newly constructed one. The superstructure is more or less—or the one-third or one-fourth of the cost of the gate would be more or less subject to depreciation, probably pretty severe. But that is always maintained; and to arrive at the number of years or the percentage of depreciation, I think that is a wide question, and at most would be only theoretical.

X Q. 288. You were a witness before the board of supervisors of Stanislaus county at the examination had by them in June 1896 in the matter of fixing rates for this canal, were you not?

A. Yes sir; that is, in Stanislaus county?

X Q. 289. Yes sir. Now at that time when you were a witness in that case, you were examined in regard to the items shown on this report, Exhibit A, were you not?

A. I believe I was, yes sir.

X Q. 290. Now when you were examined at that time in that case, I will ask you if you were not asked the following questions and if you did not make the following answers, being under
518 cross examination at that time by Mr. Garret McEnerney, the attorney for the canal company:

Q. How much in your calculation of the depreciation of $51,000 between the cost of construction and the present value, did you allow for the fact that the canal was silted?

A. I allowed the whole silting of the whole canal as 223,767.

Q. What?

A. Yards.

Q. 223,767 yards?

A. Yes sir.

Q. How much did you estimate it would cost to clean that?

A. Ten cents.

Q. So that accounts for about $22,376.70 of the $51,000 depreciation from the cost of construction to the present value.

A. Just one minute; let me see if that is it. (Referring to memoranda.) It is 223,000, yes, that is the silting.

Q. 223,767.

A. 765, I have it here in the other place.

Q. Now what went to make up the other thirty thousand depreciation or 29,000?

A. The lumber bill.

Q. You think that the lumber depreciated $29,000. How did you arrive at that figure, Mr. Goodwin?

A. That portion of it that was put in in 1873 cost $34,000 at the first estimate there, and I deduct thirty per cent.; deduct thirty per cent. on that for the cash value. It depreciated $24,288.

Q. The $34,000 has depreciated seventy per cent?

A. Yes sir.

Q. And that is——

A. Do you want the correct figures?

Q. Well it is $23,000, isn't it?

A. It is $24,288, exact numbers; you haven't the fractions in there.

Q. Yes. Thirty-four thousand and——

A. $34,697; deducting that amount, that leaves you the cash value.

Q. $24,287.90.

A. No, $288.20.

Q. Well now that is the lumber. You say that the original cost of the lumber which went into the construction of these works in 1873 was $34,697, and that depreciated seventy per cent.

A. Yes sir.

Did you so testify in answer to said questions?

A. I don't remember the detail of that, but I presume it is correct. It purports to be correct.

X Q. 291. And again at page 209 of said transcript of the record of said former case, I will ask you, Mr. Goodwin, if on the occasion of that examination already referred to you were not asked the following questions by Mr. McEnerney and if you did not make the following answers:

Q. Mr. Goodwin, how did you arrive at the conclusion that there was a depreciation of seventy per cent. in the lumber employed in the construction of these works?

A. Well, it is from the usual practice; also from consulting with the Pacific Bridge Company.

Q. What do you mean by "the usual practice"?

A. The usual allowance for the deterioration of lumber.

Q. How much does it deteriorate in a year?

A. I consider it about fifty per cent. in ten years.

519 Q. Thirty per cent. in ten years?

A. Fifty.

Q. Fifty in ten years; so its average life is about twenty years?

A. Well some is eight years or ten. I take it in this case.

Q. Well a good deal of this lumber has been in for 23 years, hasn't it?

A. Yes sir.

Q. Why didn't you arrive at the conclusion, then, that it had depreciated 100 per cent.?

A. Well I thought I would give you a little something out of it; gave you thirty per cent. of it.

Q. But you really thought, according to your observation, and according to the standard which usually obtains, that there should be no allowance whatever for that lumber, didn't you?

A. Well I would not give anything for a great deal of it.

Q. Yes sir. If it depreciates 50 per cent. in ten years, it depreciates another fifty per cent in a shorter period than ten years; The depreciation would be very rapid?

A. Yes sir.

Q. So you would say that none of this lumber which was 23 years old had any value at all?

A. No sir.

Q. It had depreciated 100 per cent.?

A. Yes sir.

Q. Now how much of that, according to your estimate, had depreciated that full amount?

A. Well all that lumber that was placed in 1873 and there was a certain portion that was placed in 1878, and a certain portion, I believe, in 1883 or '4, somewhere in the neighborhood of that.

Q. Yes sir; you mean up at the headworks?

A. The headworks was in 1873.

Q. Yes sir; how much depreciation did you estimate there was in the headworks?

A. Well I took it all in a lump.

Were you asked those questions at that time and did you make those answers?

Mr. TREADWELL: I don't understand the theory of counsel. I have not objected heretofore, but I do, in justice to the witness, object to the questions on the ground that they would only be proper for the purpose of contradicting something that the witness has testified to on which counsel wishes to impeach him; and if counsel will state anything that this witness has testified to on direct examination, which he is now attempting to impeach, and it is proper for that purpose, of course we have no objection. But I submit that the witness has testified to nothing on direct examination as to the amount of depreciation in these structures, and counsel cannot impeach him on that subject even if he can cross examine him. I am willing that he cross examine him on depreciation, but there
520 is certainly no ground for impeaching him. If he wants to ask him any questions, let him go ahead and do it. But I object to these questions on the ground that there is no ground for impeachment, no testimony given that is contradicted by this testimony.

Mr. LANGHORNE: The witness has testified in regard to this canal, that the headworks improved in value, and he is put on here by complainant to establish values, as I understand it.

Mr. TREADWELL: If I am wrong I will be corrected, but my recollection is that he did not testify that the headworks had increased in value except in answer to your question on cross-examination.

Mr. LANGHORNE: That was not objected to.

Mr. TREADWELL (after argument): I wish to place ourselves right on this objection. Our position is that we have a right to prove our case by various witnesses. We have produced Mr. Goodwin for the purpose of proving the cost of replacement of this property which was in existence in 1906. We did not ask him as to its condition at that particular time, whether it was depreciated or whether it was not. And we submit that we have the right to do that by any witness that we see fit to call. We do not have to produce it by this witness, and we therefore claim that he cannot be cross-examined on it.

The MASTER: I overrule the objection.

Mr. TREADWELL: We take an exception. It may be stipulated

that all like questions may have the same objection, the same ruling and exception.

Mr. LANGHORNE: Yes sir.

(X Q. 291 read.)

A. I don't remember the exact questions, but I presume they were asked and the answers given.

X Q. 292. That is, the answers given by you as I have read?

A. Yes, I presume that is a copy of the proceedings.

521 X Q. 293. Well, according to your best recollection, Mr. Goodwin.

A. I don't remember very much about it. It is a good many years ago.

X Q. 294. You don't say now that you did not so testify?

A. I don't say that I didn't or that I did.

X Q. 295. Mr. Goodwin, I understand that in your report, Exhibit A, you did not estimate upon or include the lateral system from the main canal known as the Dos Palos canal?

A. No sir.

X Q. 296. And you also did not estimate upon or include what is known as the outside canal?

A. It was not in existence.

X Q. 297. Had not been built then?

A. No sir; the Dos Palos system was included in that. I think you will find it in the records of 1896.

X Q. 298. You mean to say by that that you think that although you had not included it in your report to the board in 1896, that the board did itself include it, when they were making up their rate? Is that the idea? In estimating their rate?

A. It was brought up by Mr. Hunt, an engineer for the company, and his figures, I believe, were adopted.

X Q. 299. Now in your report, Exhibit A, you give the mileage of the canal that you did examine at that time in connection with your report and upon which you were making your report.

A. Yes sir.

X Q. 300. That appears from the report itself, does it?

A. I think it does. It would in the detailed report.

X Q. 301. And before you made that report you went over this canal, did you not?

A. I measured every foot of it.

X Q. 302. So you can state to the court exactly what portion of the canal and its works were included in your report, can you not?

A. In my 1896 report.

522 X Q. 303. Now I will ask you, will you please look at the map complainant's Exhibit 2, and state which of the complainant's canals and works shown on said map you did not include in your report to the supervisors of Stanislaus county in June 1896.

A. It did not include the canal as delineated on this map "San Joaquin and Kings River Canal & Irrigation Co.'s outside canal"; also it did not include outlet canals No. 1, No. 2, No. 3, No. 4 and No. 5; did not include the Dos Palos main canal, Dos Palos

branch No. 1, Dos Palos branch No. 2, Dos Palos Branch No. 3, Dos Palos Branch No. 4. It did not include the dredging of the China slough from a point distant about one mile northwest from the main headgate to a point near the crossing of the main canal of the Southern Pacific Railroad Co. It also did not include the headgate at the China slough. It also did not include the San Joaquin and Kings River Canal & Irrigation Co.'s dam on the San Joaquin river. It also did not include the dredging of the China slough from the headgate at the head of China slough down to its intersection with the main canal. There is also not included in the 1896 report a drain canal commencing at or about outlet canal No. 2 and running along the main canal to the Los Banos creek. There is also not included in the report of 1896 a side canal on the irrigation company's outside canal from outlet No. 1 canal to Los Banos creek. There is also not included in the report of 1896 numerous stop gates, outlet gates, waste gates, measuring weirs and other structures; also there does not appear in the report of 1896 the Orestimba branch canal.

X Q. 304. Now Mr. Goodwin, can you make up an estimate or statement showing clearly—that is, take from your report here, Exhibit 1, as to 1906, take out of that the estimates of cost of construction of those portions of the works, canals, gates, etc., that were not included in the report of 1896? Can you do that?

523 A. I could.

X Q. 305. Will you do that before the close of your cross examination?

A. It would take some time. There is quite a good deal of work there to go over all of that ground.

X Q. 306. It would help counsel and the court very much if you would do it.

A. I have no copies, gentlemen. All of mine are destroyed.

X Q. 307. We have a printed copy of your report, you understand.

Mr. LANGHORNE: Up to that point our cross examination is closed, but with the right to cross examine him further on that point.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. In stating, Mr. Goodwin, the structures which you found included in your report of 1906 which were not contained in your report of 1896, did you mention the weir some three miles from the head of the canal?

A. No I did not. There is two weirs.

R. D. Q. 2. Those are new, are they?

A. Yes sir.

R. D. Q. 3. And those appear in your report, do they?

A. In my 1906 report.

R. D. Q. 4. In your 1896 report?

A. No they do not appear in my 1896 report.

R. D. Q. 5. In regard to that brush dam that was in the San Joaquin river at the time you made your examination in 1896, do you know whether any of that is used or still left there to protect the new dam or not? What is the condition of that? Is it gone entirely?

A. I don't know; I didn't see it.

R. D. Q. 6. At any rate, the structure there that you have now, the weir across the river, is new, a new structure?

A. A new structure, yes sir.

524 R. D. Q. 7. You also mentioned certain measuring boxes with that new canal in 1906, that were not there in 1896. What is the general nature and character of those boxes, and the purpose?

A. All gates, all outlet gates or distributing gates, are furnished with measuring boxes to measure the quantity of water delivered to the distributing ditches, to consumers.

R. D. Q. 8. That is, it is a measuring contrivance to measure the cubic feet of water that pass- through the gate?

A. Yes sir.

R. D. Q. 9. And when you examined the canal in 1896, were there any devices of that kind for measuring the water taken out of the canal?

A. There may have been some crude appliances, but I didn't note any.

R. D. Q. 10. And in 1906 you have mentioned, designated in your report, the number of those measuring boxes, have you?

A. I have, yes sir.

R. D. Q. 11. Now in 1896 do you remember whether you got all of the personal property, horses, wagons, contents of the stations, offices of the company and scrapers and things of that kind?

A. No sir I do not.

R. D. Q. 12. Did you have the facility even, for getting those things?

A. I did not.

R. D. Q. 13. You made that examination without the co-operation of the company in any way, didn't you?

A. Excepting that I was supplied with several maps and plans of structures at the latter end of my report.

R. D. Q. 14. By whom?

A. By the company.

R. D. Q. 15. But were you pointed out to all the personal property and things of that kind? Was your attention directed to all of it?

A. No I had no assistance on that.

R. D. Q. 16. You had to do the best you could to find what 525 did belong to the company?

A. Yes sir.

R. D. Q. 17. And in your report of 1906 do you include the personal property that you did not find in 1896?

A. I would have make a comparison.

R. D. Q. 18. Well, refresh your memory a little. Take the dredger, for instance.

A. That was not on the works at that time.

R. D. Q. 19. That was not there? And the pile drivers, do you remember whether they were there?

A. No sir, they were not there.

R. D. Q. 20. Do you remember whether you found all the scrapers in 1896 that you did in 1906?

A. That I could not state. Unfortunately all of my memoranda and books were destroyed.

R. D. Q. 21. In 1896 did you include in your report all of the bridges that went across the canal?

A. Yes sir. I had no means of knowing whether they belonged to the company or otherwise.

R. D. Q. 22. So you did include them?

A. Yes sir.

R. D. Q. 23. So there is no difference in that regard in the two reports?

A. No difference.

R. D. Q. 24. Now besides these matters, what relative condition did you find the canal in in 1906 and in 1896 in regard to the silting of it and the cross section of it?

A. The canal of 1896 was badly silted. In 1906 it had been cleaned out and was in very good shape indeed. It had been widened and deepened.

R. D. Q. 25. So that the amount of silting was much less in 1906 than in 1896?

A. At the time of my examination there was practically no silting at all.

R. D. Q. 26. It had practically had its cross section restored?

A. Restored. In the first place, whatever silting might have come in since its dredging with the dredger, they go below the grade line, and all the silts would have been deposited in these holes or deep excavations, and would fill up first to the grade line before it would stop the flow of water or depreciate the canal.

526 R. D. Q. 27. That silting you refer to, Mr. Goodwin, is that an incident of practically every canal?

A. Yes sir; all canals are that way.

R. D. Q. 28. And it makes practically no difference how a canal is handled, it must be cleaned at times or it will silt up?

A. Yes sir; all canals have it.

R. D. Q. 29. Now in 1896 the values you put on the canal, the valuation was made up by first determining what you thought at that time would be the cost of replacing the canal and reproducing the structures, deducting from that for such depreciation as you found there in the canal or the structures?

A. Yes sir.

R. D. Q. 30. But — your report, as you have submitted it for 1906 you did not attempt to deduct for the depreciation, whatever it might be?

A. I did not.

R. D. Q. 31. What I mean, Mr. Goodwin, is that the estimate that you give here *is* the cost of reproducing it would be the cost of producing the canal anew?

A. Yes sir; the cost of reproduction.

R. D. Q. 32. Now on the question of depreciation, is it possible to lay down any arbitrary rule for horizontal reduction in canals of this kind to determine what their present value is?

A. In my opinion, no.

R. D. Q. 33. You have simply got to look at each structure and find out what its condition is?

A. Yes sir.

R. D. Q. 34. And make an estimate on that?

A. Yes sir.

R. D. Q. 35. And you are of the opinion that that is the only fair way that you can determine what the depreciation on that canal is?

A. Yes sir.

R. D. Q. 36. In 1896, when you made your estimate as to the value of this canal, you figured that about six and one-half
527 cents per cubic yard was a reasonable figure on excavation work?

A. I did, yes.

R. D. Q. 37. Now was that a figure that you believed at that time that it could be done for?

A. I did believe it.

X Q. 38. At any rate, that is the figure that you used at that time?

A. Yes sir.

R. D. Q. 39. Now could excavation be done at that price in 1906 or 1907?

A. No sir.

R. D. Q. 40. Could you have, in 1906 or 1907, placed it in the neighborhood of ten cents for excavation?

A. There is a difference in canals. It runs from seven to ten cents.

R. D. Q. 41. That is, excavation by scraper, I refer to.

A. By scraper.

R. D. Q. 42. That you put about ten cents?

A. Yes sir.

R. D. Q. 43. And do you think that it would cost that in 1906 and 1907 to do that kind of work?

A. I do, if not more.

R. D. Q. 44. Now what was the difference in the cost of labor in 1896 and 1906 and '7?

A. Pretty nearly double.

R. D. Q. 45. What could you get labor for down in the San Joaquin valley in 1906 and 1907?

A. From $2.

R. D. Q. 46. Two dollars up or two dollars down?

A. From two dollars to two dollars and fifty cents.

R. D. Q. 47. And was labor plentiful even at any figure?

A. No, you could not get it.

R. D. Q. 48. And in 1896 was labor plentiful or otherwise?
A. It was plentiful.
R. D. Q. 49. And the price you say was—
A. From $1 to $1.25.
R. D. Q. 50. Now in 1896 you placed a valuation on redwood planking, $13; redwood timber, $14; pine $11; piles *are* 13 cents a running foot. Now could you get lumber at prices of that kind in 1906 and 1907?
A. No sir.
528 R. D. Q. 51. Have you got a complete list of what lumber was selling for in the yard in 1906?
A. Yes sir.
R. D. Q. 52. I believe you testified as to what lumber was selling for at that time. You made investigations as to that?
A. Yes sir. (Producing).
R. D. Q. 53. And this table that you have produced here represents prices that were prevailing at that time?
A. Yes sir, those are yard prices.

Mr. TREADWELL: I offer in evidence this retail lumber price list 13, dated November 7, 1906, in connection with the testimony of the witness.
Mr. LANGHORNE: It is objected to on the ground that it is incompetent and also on the ground that it is immaterial.

The MASTER: I overrule the objection.
Mr. LANGHORNE: Note an exception.
(Marked "Complainant's Exhibit No. 5".)

(By Mr. TREADWELL:)

R. D. Q. 54. Now in 1896 you figured the carpenter work on bridges at $5 a thousand on small gates and on regulating gates at $7 a thousand. Could carpenter work be done at those figures in 1906 and 1907?
A. No, labor upon the bridges was about the same thing.
R. D. Q. 55. Carpenter work on bridges was about the same thing?
A. Yes sir.
R. D. Q. 56. Why do you make a distinction between bridges and other carpenter work?
A. Well the carpenter work is very light on bridges. There are very few cuts. Flooring is thrown down irrespective of widths. The only framing are in the bents.
R. D. Q. 57. The work is generally rough, isn't it?
A. Rough; mostly rough work.
R. D. Q. 58. Mostly heavy wood that can be put down by inexperienced men?
A. Well of course it needs men of some experience. On
529 gates there is a great deal of carpenter work. The smaller the lumber the more the rate per 1000; the larger the lumber the less the rate per 1000.

R. D. Q. 58. So that outside of the bridges, as I understand you, that work could not be done at those prices in 1906 and 1907?

A. No sir.

R. D. Q. 59. You were asked in regard to freight and hauling and the prices you charged for that in 1906. Will you give me the details of the prices for freight and hauling at that time.

A. The base of the price of the lumber as adopted by me was in ship along the Southern Railroad company's long wharf.

R. D. Q. 60. At Oakland?

A. At Oakland. The prices prevailing at that time were from $4 to $6 up to $10 higher.

R. D. Q. 61. Than the estimates that you made?

A. Yes sir; but taking into consideration the magniture of the works, I obtained a figure from a lumber dealer which I adopted, at $27 a thousand for Oregon pine and for redwood; both lumbers at that time seemed to be nearly the same price. To this price should be added unloading of the lumber on the wharf and from the wharf to the cars. It is impossible to do both at the same time. Then there would have been the freight from Oakland to the nearest railroad station, to the particular structure in question. There it had to be removed from the cars immediately, on account of demurrage, and placed in piles, in lumber piles, or in other words, form a yardage. It being a large price of work, they naturally want each class of material so that they can handle it readily and get what they want readily. The cost of handling I estimated, or took the price, rather, at $1, which is a low estimate for checking it from the steamer to the wharf, loading the cars and also rechecking it, about four bits a thousand. At the destination of the lumber there would be the unloading and checking and piling in the
530 lumber yard, say, at $1 more a thousand. That I consider into the freight and hauling. The extreme freight, or the freight at the extreme station, which is Mendota, is $3.80 a ton. The weight of lumber, taken as a rule is 3200 to 3300 pounds, but in my estimate I took it at 3000 feet, board measure, to facilitate figuring. That would be $5.70 freight to Mendota. Add to that the fixed charge of $2.50 at wharf and station, would be $8.20 for the lumber in the yard at Mendota.

R. D. Q. 62. And then you figured taking it from the yard to the place where the structure was located?

A. Yes sir. And in order to do that I had a map of the canal and I fixed a limit of hauling from each station, taking into consideration the roads which would go out of the way, probably two miles out of the way. The county roads do not follow the canal. And I made a charge of hauling.

R. D. Q. 63. There would be then places in most every case where you could not go directly from the station to the place where the work was to be done on the road?

A. Yes, on account of sloughs, ditches, etc.

R. D. Q. 64. There temporary roads would have to be built or you would have to go over the rough country.

A. I considered that going around a good road was cheaper

than to go across the country. There was no road running along parallel with the canal, where the canal would be. Of course there would be no canal if we were building it.

R. D. Q. 65. Now the labor in connection with hauling, would that be higher or lower in 1906 than in 1896?

A. A great deal higher.

R. D. Q. 66. In your estimates you have attempted, if I understand you, to state as accurately as you can as to each structure, the exact amount of the materials, the main materials of which it is composed.

531

A. Yes sir.

R. D. Q. 67. And the labor of placing it?

A. Yes sir.

R. D. Q. 68. Now besides that you add a percentage of from 5 to 10 per cent. for incidentals? Now will you explain fully what you include in that percentage which you add for incidentals?

A. The incidentals are really a contingent expense. A contractor or an engineer figuring on any plan takes the quantities as furnished him, and if he does not take into consideration the contingent expenses, the contractors fail and the engineer has to call for more money from his employers. The general items to be taken into consideration in making an estimate of any kind upon any structure, and especially woodwork, would be nails, spikes, bolts, which are never specified; and particularly in the structure of the dams there is a great deal of tie rods that have to be cut and threaded, necessitating a blacksmith and tools to thread them, and the time employed is not considered in the value of the carpenter work. There is another item, the wastage on lumber, commonly called sawage. The estimate of any work is taking the timber in its place as to its dimensions in place. For example, the dimension of a timber is 12x12 inches square by fifteen feet long. That is what a contractor is paid for. The timber itself, bought from any dealer is 16 feet long. Hence there is a wastage of 1 foot on that particular timber. Experience tells me that it is as a rule a large item. For instance, a foreman or a superintendent might tell his driver to bring him ten sticks from the yard, of 16 feet long. When it comes on the ground, lo and behold it is 18 feet long. He is not going to ship it back. He uses it and wastes 2 feet. In bridge building where the planks are laid diagonally, as they are in a great many cases, there is at least 5 per cent. of their flooring lost. That is, you don't receive the cost of the actual lumber in place because you generally take the width by the length. In the headworks, for instance, the diverting dam and head gates, in those a large percentage should be allowed for incidentals and contingents for the false work or cofferdams, forms, bracing, temporary sheet pilings; also the time of pumping and baling, and a night watchman should be taken into consideration; also the bending of all joints. Another item which is generally overlooked is the repairs on machinery which they are compelled to use; the pile driver with an engine. An item in there which it would be just as well to put in is "Out of commission." In other words, when she is up for re-

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pairs; the time lost. There is building roads, there is temporary houses for the men, which are not included in the cost. They don't exist when the persons go on the ground. And an item also on a large structure work, if it runs into, say, $100,000, interest should be taken into consideration; interest on the money invested.

R. D. Q. 69. Now the ten per cent. that you have added for incidentals, is that an amount which the experience of engineers has shown to be practically accurate in determining the amount of incidentals in the structures where you have applied that percentage of increase? Is that a percentage that is generally accepted by engineers for that purpose?

A. That percentage varies. A man should use his own judgment. I have seen that percentage—And in fact most all contractors use thirty per cent., and especially in works of this character.

R. D. Q. 70. So then the percentage that you have computed here, and which varies in different structures, do you think it is a high percentage or a low percentage for its purpose?

A. I think it is a low percentage.

R. D. Q. 71. Now you have also included a percentage
533 to be added for engineering and general superintendence and things of that character. Now will you state a little more fully what you include in that.

A. The 10 per cent. added to the summary I allow because on the whole cost of the work would be for engineering, general superintendence, officers of the company, law expenses, stationery, printing, rents, and other similar incidentals, which is the usual percentage.

R. D. Q. 72. That is the percentage that is generally added by all competent engineers?

A. Yes sir.

R. D. Q. 73. Now in that do you include the necessary insurance pending construction?

A. Yes, that would be included.

R. D. Q. 74. For the protection of the property from fire destruction?

A. Yes sir.

R. D. Q. 75. The night watchman?

A. The night watchman would be on the work itself.

R. D. Q. 76. The expense of surveying?

A. That would be under the engineering item.

R. D. Q. 77. The salaries of officers?

A. The salaries of officers and the expenses of traveling, the expenses of the superintendent, the general superintendent.

R. D. Q. 78. The general superintendent?

A. The maintenance of the office of the general superintendent.

R. D. Q. 79. And telegraphing and telephoning?

A. Certainly.

R. D. Q. 80. Now in regard to the condition of the structures in 1906 when you made your report, were those structures in a condition so that they were all performing the functions for which they were constructed at that time?

A. All that appears in my report were in good condition and doing their duty, the duty for which they were intended. There were some structures on the canal that I did not take in because they were not performing any duty whatever.

534 R. D. Q. 81. You were asked in regard to certain canals, such as the Poso canal, leading out of the canals of the complainant. Are there canals or ditches, distributing ditches, leading out of the canals of complainant, which are not delineated on this map, complainant's Exhibit 2?

A. Every distributing gate on the canal which is on the bank of the canal, supplies a lateral or a small canal leading away from it.

R. D. Q. 82. And used for the purpose of distributing water?

A. Of irrigation, yes.

R. D. Q. 83. And those you did not place in your report?

A. Not the canal; no sir.

R. D. Q. 84. Simply the gate?

A. The gate I did.

R. D. Q. 85. And the Poso canal is one of those canals?

A. I took it to be such.

R. D. Q. 86. It was not, at any rate, as a canal belonging to the company?

A. No it was not.

R. D. Q. 87. And in getting up this report—I suppose I may lead you to this extent—you took it for granted that the distributing ditches did not belong to the company?

A. I didn't take it into consideration at all.

R. D. Q. 88. And when Mr. Langhorne suggested to you that you did not take into consideration the fact that Miller & Lux got their water through the Poso canal and didn't pay anything for it, you did not mean to admit that you knew that to be the fact?

A. I knew nothing about it whatever.

R. D. Q. 89. And when Mr. Langhorne referred you to the fact that the outside canal of the company only cost $85,877.82, did you mean to subscribe to that, as knowing anything about it, except from your examination of it yourself?

A. As far as I am concerned, it does not matter to me whether it cost five cents or ten million dollars.

535 R. D. Q. 90. All you know about its cost is what you could tell by examining it?

A. By examining it, yes.

R. D. Q. 91. Now when you got up your report, Mr. Goodwin, which has been introduced in evidence here, is this report in just the way it came from you?

A. I presume it is.

R. D. Q. 92. I mean, there have been no changes in the report? You simply submitted your report and the company accepted it?

A. Yes.

(At the hour of 12 m. recess was had until 2 p. m.)

WEDNESDAY, *October* 14, 1908—2 p. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of S. J. SHANNON, called for complainant; sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Shannon?
A. Los Banos.
Q. 2. How long have you lived in Merced county?
A. I have lived there since May 1, 1901.
Q. 3. Prior to that where did you reside?
A. In Alameda.
Q. 4. In whose employ are you at present?
A. Miller and Lux, Incorporated.
Q. 5. How long have you been in the employ of Miller & Lux and Miller & Lux Incorporated?
A. The last time, I have been since May 1, 1901. Prior to that I went to work for them in April 1882.
Q. 6. And from April 1882, how long did you work for them?
536 A. I worked until November, 1887.
Q. 7. Are those the only two periods that you ever worked for that concern?
A. Yes sir.
Q. 8. What business have you been in while you were employed by Miller & Lux?
A. This last time I have had charge of their land department, or land sales; looking out for their land department in general.
Q. 9. The other time what was the nature of your duties?
A. Well, chore boy and matters around the ranch; vaqueroing.
Q. 10. Since 1901 you have had charge of their land department?
A. Yes sir.
Q. 11. What in general have been your duties in that regard?
A. Well, tending to their land sales and the assessing of the lands, and passing on the purchases made by the firm.
Q. 12. Have you become familiar with the condition of the lands of Miller & Lux?
A. I have.
Q. 13. What counties do those lands lie in, in the San Joaquin valley particularly?
A. They are some small portion in Stanislaus county, a few hundred acres; and then on the west side of Merced, and a portion of Fresno county and a portion of Medera county.
Q. 14. And have you or have you not become familiar with the prices for which those lands sell in the counties of Fresno, Stanislaus and Merced?
A. I have.

Q. 15. Do you know the canal of the San Joaquin and Kings River Canal & Irrigation Co., Incorporated?

A. I do, yes sir.

Q. 16. And do you know the land that lies under that canal?

A. I do.

Q. 17. And the lands that are irrigated by it?

A. I do.

Q. 18. Are you familiar with the sales which have been
537 made of lands under that canal?

A. I have made all the sales for the firm of Miller & Lux since 1901.

Q. 18. Have Miller & Lux colonized any lands there?

A. They have.

Q. 19. What particular colonies did you have charge of?

A. The Dos Palos colony, the Los Banos colony, and its additions, the Volta colony and the new colony at Gustine.

Q. 20. And have you had charge of the sale of the lands in those colonies?

A. I have, exclusively.

Q. 21. Taking the lands traversed by the canal of the San Joaquin and Kings River Canal & Irrigation Co., Incorporated, the main canal in Fresno county, what is the value of that land?

A. The right of way?

Q. 22. Yes, per acre.

A. Beginning at the head works and going to the Merced county line?

Q. 23. Yes.

A. Well, that land on an average, you mean?

Q. 24. Well you can give the general condition of it and give the average of it afterwards if you wish?

A. Well, the land at the headworks and for about three miles around there, is a better quality of land; then you run into the poor grade of land as you pass Firebaugh, plumb out to the Merced line. I have made a number of sales under the canal in Dos Palos colony that lies in Fresno county. That portion of it is high—well the same character of land, at $30 and $35 an acre; and there is some of the land there that is not as valuable. I should say about $20 an acre, from the headworks to the Merced county line.

Q. 25. On an average you think that would be a fair estimate?

A. Yes, $20 an acre. Yes I think that is the value of the land there. That is, the raw land, I mean.

Q. 26. The raw land, before any improvements are put upon it?

A. Yes sir.

538 Q. 27. Now take the land traversed by the outside canal in Fresno county, how does that compare with the land along the main canal?

A. About the same thing. They are only about a mile and a half apart there.

Q. 28. Do you know what land of the same character of the land you have just spoken of sells for in Fresno county, and which is not and cannot be irrigated artificially?

A. You mean outside lands?

Q. 29. Outside lands, yes.

A. Why they have got land there as low as $1.25 an acre; $2; $3. Of course, there is some of the land along the sinks of the Big and Little Pinoche there that comes high, as high as $6 an acre.

Q. 30. Those are creeks that come down there?

A. Yes sir. But the average land there, I should judge, would be $3 an acre, the usual sheep ranges. There is some very good land there though, that lies under the hill.

Q. 31. If that land were irrigated, would it be productive land the same as the land along this canal?

A. Oh, yes; it is very find land there, that land adjacent to the hills there, the base of the hills; as fine land as there is in the state.

Q. 32. Now passing into Merced county, will you give the judge some idea, or will you state what in your opinion is the value of the land traversel by the colony system, the Dos Palos colony canals, after it gets into Merced county?

A. You see the Dos Palos colony lies partially in Fresno and partially in Merced county.

Q. 33. Give us both. Give us the Dos Palos colony in Fresno county and in Merced county?

A. It runs about two miles and a half of the colony in Fresno. That land has been sold there on an average of about $60 an acre in Fresno county, and then it runs about 8 miles in Merced county. That is the main canal on that line. We have lately put on
539 some land there that we are selling for $100 an acre, but the land has averaged, I should judge, $70 an acre, through Merced county.

Q. 34. You are referring now to bare land, the same as before, before it is irrigated?

A. Yes, I have reference to land that we have sold for colonizing there.

Q. 35. You sold it before it was improved?

A. Yes sir; with the exception of a few little pieces where we have subdivided; some land that has been originally alfalfa land.

Q. 36. But the figures you have given apply to bare land?

A. Yes to bare land.

Q. 37. Now taking the main canal and the outside canal, the land traversed by it in Merced county, will you give the values of that?

A. Well, take the portion from the Merced line down there in the neighborhood of Camp 13.

Q. 38. How much is that worth an acre?

A. That is similar in value to Fresno county. That is a poor grade of land through there. And in fact some three or four miles this side of Camp 13, under what we call the Wiley place.

Q. 39. Down to that point you say it is poor land, a good deal like the main canal in Fresno county?

A. Yes.

Q. 40. And how would the value of it compare with the $20 valuation you put on in Fresno county?

A. I should say about the same thing.

Q. 41. Going down the canal from that point, down to Volta, what is the value of that land?

A. We run into some higher land there and running down to what is known as the Thornton place.

Q. 42. What is that near?

A. Well there is land under there, selling for——

Q. 43. I mean, where is the Thornton place located? What place is it near to?

A. It is on a line about two miles south of the town of
540 Volta.

Q. 44. And what do you say land is selling in there for?

A. Land is selling from $65 to $125 an acre.

Q. 15. And how is the land between Volta or the Thornton place and the San Luis creek?

A. It is a harder grade of land there.

Q. 46. Do you say poorer or better?

A. It is much poorer than from the Wiley place to the Thornton place.

Q. 47. About how much per acre is that worth on an average?

A. I should judge that land was worth about $25.

Q. 48. Going on down from San Luis creek to the Stanislaus line, the Stanislaus county line, what is the character of that land?

A. Well this land that I have referred to runs further than the San Luis creek. It runs down to what is known as Mr. Drummond's place, in the Cottonwood. It is probably four miles this side of San Luis creek. Then the land gets much better there and is worth from—you can't touch any of the land through there for $100 an acre. In fact we are putting on the Gustine Colony there, it is as high as $200 an acre that we are selling the land at. It is in alfalfa.

Q. 49. But on an average, from Drummond's place, or on an average from San Luis creek to the Stanislaus line?

A. It is easily worth $100 an acre, that land.

Q. 50. Are you familiar with the value of land in Merced County above, outside of the influence of these canals?

A. Yes sir.

Q. 51. What is land there worth? Or I will ask you: Is the land there, outside of these canals, good land if irrigated?

A. Yes, sir, there is very fine land outside.

Q. 52. But there is no way of artificial irrigation at present?

A. Not at all.

541 Q. 53. And what is the value of that land as compared with land under the canals?

A. Well, land can be bought for about—well, $6 to $10 an acre; average outside land; except some land that lies opposite the Pacheco Pass there. There is a belt that runs through there, there is more moisture there, more rainfall and generally a better guarantee of crops there.

Q. 54. There is a pretty good grain crop there?

A. Yes, yes; they usually have a prettier crop there.

Q. 55. Now following that on down the main canal through Stanislaus county from the county line along the canal, how much is land under the canal worth there?

A. Well that land is even better then the Merced county land

there. There is land around Crow's landing there that is worth $200 an acre. It is a better average land from the Stanislaus county line to the end of the canal than it is on any other portion of the canal. I should say it was worth as high as $125 an acre. I don't suppose you could buy any of that land along that canal for $125 an acre, from the Stanislaus county line down to the end.

Q. 56. How does Stanislaus county compare with Fresno county in moisture?

A. The rainfall is a great deal more. They have probably on an average of 3 or 4 inches more per annum, around Crow's Landing than they do around Firebaugh.

Q. 57. How does land there which is not artificially irrigated compare in value? Is it more or less than the land in Fresno county?

A. Why I guess it will sell for $25 an acre. I think it will average that, the land around the outside there, from Stanislaus county. Some sales can be made for—I heard of one lately for $30; and there are some as low as $15. Well, $25 is a good average valuation of the outside lands for farming.

Q. 58. Do you know where the outside canal stops at present?

A. I do, yes sir.

542 Q. 59. Can you give me the general value, selling price, of the land which would lie between the present main canal and the general grade of the outside canal if it should be extended on down through Merced and Fresno counties?

A. Beginning at the head of the outside canal?

Q. 60. The end of it.

A. The end of it?

Q. 61. Yes, if it were continued. (Question 59 read.)

A. From the present terminus?

Q. 62. Yes, from the present terminus.

A. That is a very valuable lot of land there. There is land there that probably under irrigation, that land there would easily bring from $150 to $200 an acre.

Q. 63. That is, if put under irrigation?

A. If put under irrigation, yes.

Q. 64. Well, now what is its value at the present time? What does it sell for? Land in through there.

A. I should say about $25 an acre.

Q. 65. Clear down to the main canal? I am speaking now, Mr. Shannon, of land which is immediately adjacent to the main canal, and above it.

A. Yes sir.

Q. 66. And between that and about the general level of the outside canal, if extended. Now does your $25 valuation include land clear down to the main canal?

A. Yes, I would say a $25 valuation; because the land as it gets down there you get pretty close to the base of the hills, and the land is very much of the same character right through there.

543 Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Shannon, that main canal and also the outside canal runs along the contours or slopes of the hills, does it not?

A. It does after it comes down in the vicinity of Los Banos.

X Q. 2. And from the headworks to Los Banos it runs through a sort of level country?

A. Yes sir.

X Q. 3. But after it gets to Los Banos its course is around quite an elevation?

A. It is what we call the new canal. The outside canal runs right up southwest from Volta. It goes right up along the base of the hills.

X Q. 4. How about the main canal? Does not that go up along the base of the hills?

A. It is lower down; 30 or 40 feet lower down.

X Q. 5. But still it is higher, a great deal, than the land that is irrigated there, is it not?

A. I don't quite understand.

X Q. 6. I say, the elevation of these two canals, the main canal and the outside canal, after they get across the flat place that you mention, the elevation of those in their course, is naturally considered higher than the land they irrigate? Isn't that so?

A. Yes.

X Q. 7. In other words, they run along hill land, do they not?

A. Well they come out into the open there, off of the sinks of the San Luis creek. It falls off from the base of the hill. The hill curves in.

X Q. 8. The canals follow the contours of the hills?

A. Yes sir.

X Q. 9. When they come into the creeks or barrancas, they have to run up, do they not, and make a curve and come out around the hill?

A. Yes, they run on the grade.

X Q. 10. Now are the lands over which these canals are built, as valuable as the farming lands lying below them and in their
544 vicinity, which are irrigated from them?

A. I should think they would be, yes.

X Q. 12. Are they not more hill lands?

A. No, they are practically very little hill lands; practically very little hill land there. They run southwest of Volta. I don't think they run what you would call up land there, more than half a mile around along the base of the hill.

X Q. 13. Suppose that there were no canals there at all and no method of irrigating the land until the canal was built, understand; it being poor land and no irrigation and no means of irrigating the land, understand?

A. Yes sir.

X Q. 14. What would it be worth per acre—that is, the land upon which the canals are now built?

A. The right of way, do you mean?

X Q. 15. Yes, the right of way. Suppose there was no water there at all to irrigate those lands, understand, what would they be worth? That is, the right of way?

A. Say in Fresno county?

X Q. 16. That is the full length of the land.

A. Along say in Fresno county?

X Q. 17. In Fresno county.

A. And had no possibility of irrigation?

X Q. 18. And had no possibility of irrigation.

A. I should say $1.25 an acre.

X Q. 19. $1.25 an acre?

A. Yes.

X Q. 20. And how about the land occupied by the right of way of those canals in Merced county, if there was no irrigation there and if there were no means of irrigating? What would they be worth?

A. To a certain point there that I mention that lies opposite Pecheco Pass, it would not be worth much more than in Fresno county.

X Q. 21. How much would it average per acre?

A. Say $1.50 an acre.

545 X Q. 22. That is, down to Pacheco?

A. Down to opposite to Los Banos.

X Q. 23. Then from Los Banos on to the Stanislaus line, what would it be worth if there was no irrigation?

A. For farming purposes, they raise better crops in there, and it would be worth from $7 to $8 an acre.

X Q. 24. That is, in Merced county?

A. Merced.

X Q. 25. Now how about it in Stanislaus county?

A. I should say $10 an acre. The further they go toward the bay, the more moisture there is and the better crops they raise there. Opposite the Panoches is a very dry belt through there and they raise about one crop in six or seven years.

X Q. 26. Now then, your answers that you made to counsel in regard to this matter have reference, have they not—that is, as to the value of the lands—to the fact that they are worth the figures you give because they can be irrigated from the canal? Is that so?

A. Yes sir.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Shannon, I understood you to say in your direct examination that outside land in Stanislaus county which was not artificially irrigated but which was good land if irrigated, was sold for something in the neighborhood of $25 to $30 an acre?

A. Yes, sir.

R. D. Q. 2. Now I understand you to say in answer to counsel that if this land in Stanislaus county was not irrigated, could not

be irrigated, it would be worth $10 an acre. Now will you explain what you mean by that.

A. Well, one reason, the fact that the irrigation is there brings people there and it brings more of a valuation to the land. And my answer to him was given under the impression that if there was no water, and no way of getting it there, that probably the land
546 would not be worth any more than $10 an acre.

R. D. Q. 3. That is, you meant that if there was not any of that land irrigated at all, it would be but a barren waste there, nobody living there?

A. There would be very few people there. In former days, 25 years ago, when there were very few people there, the land was not worth much. It was used merely for sheep grazing. Now people hold that land for a higher price because they figure that possibly the canals might be extended there some day. That is, I am giving what the sale value was.

R. D. Q. 4. The first figures you gave are the actual prices that land does sell for?

A. Yes. That is what it actually sells for today.

R. D. Q. 5. And what you are giving counsel is its suppositi-ous value?

A. Yes, in case anyone thought that there would be no canals there.

R. D. Q. 6. You also, in answer to counsel, in giving that value asked him if he was taking it for granted that there was no prospects for irrigation?

A. Yes sir.

R. D. Q. 7. In taking the suppositi-ous value of land, would you consider the fact of whether the land was nearer to the supply of water or not?

A. Yes sir.

R. D. Q. 8. That is, you would consider the nearness of supply in buying and selling land down there?

A. Yes sir.

R. D. Q. 9. So that I may be sure that you understand me in another matter, I will ask you if you are familiar with the sale of land adjacent to the canal, but above it, the main canal, and between Los Garzos creek and Quinto Creek?

A. Yes sir.

R. D. Q. 10. And between Los Garzos Creek and the Stanislaus county line?

A. Yes sir.

547 R. D. Q. 11. Are you familiar with the sale values along there?

A. Under the old canal there, at the colony of Gustine, which we have lately put on? You mean outside——

R. D. Q. 12. I mean above the main canal but adjacent to it.

A. Yes sir.

R. D. Q. 13. And between Los Garzos Creek and Quinto Creek, and between Los Garzos Creek and the county line. Do you know how land sells along there, immediately above the main canal?

A. There is an extension of the canal that runs down on what we call the Sturgeon land.

R. D. Q. 14. That is an extension of the outside canal?

A. Yes sir.

R. D. Q. 15. By "Extension" you mean a ditch taking from it?

A. Yes sir, taking from it along by the Sturgeon land. Mr. Stuhr is the sales agent.

R. D. Q. 16. What does land along there sell for?

A. They are selling that land there as high as $150 an acre.

R. D. Q. 17. Now then, across Los Garzos Creek and coming down toward the Stanislaus line, but immediately above the main canal, do you know anything about the sale value in there?

A. Do you mean between the Sturgeon land and the Stanislaus county line?

R. D. Q. 18. Yes.

A. The Lassen land lies in there. It has been sold as high as $60 to $70 an acre; $30, some of it; because they are figuring possibly, the valuations are put on there with the idea that there would be a canal extended through there very shortly.

R. D. Q. 19. This outside canal, is the country in such shape that it could be extended right on down from the main canal through Merced county into Stanislaus?

A. Yes sir.

R. D. Q. 20. An easy grade right along down?

A. An easy grade, yes sir.

548 R. D. Q. 21. And going on down the main canal in Stanislaus county, but above the canal, do you know anything about the sale of land immediately adjacent to the main canal, along there? What is the sale value of land along there?

A. Well right opposite Newman I could not say. I have not heard of any sales in there lately; that is, outside of Newman. But opposite Crow's Landing the land, I understand, sells out in there for $20 or $25 an acre.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. Take, for instance, Mr. Shannon, an acre of land, say, in Stanislaus county, lying right next to the canal, and which is irrigated from it, and which I understand you to say is worth at least $125 an acre in there, would you consider that an acre of the right of way now occupied by the canal, right along side of that acre of this irrigated land, was worth $125 an acre at this time?

Mr. TREADWELL: I object to that on the ground that it calls for a conclusion of the witness.

The MASTER: I overrule the objection.

(Question read.)

(By Mr. LANGHORNE:)

R. X Q. 2. What is your answer?

A. In other words, you want to know if I think the right of way is worth as much as the land stands?

R. X Q. 3. As the right of way stands?

A. I should think it was.

R. X Q. 4. What would it cost to put the right of way occupied by the canal in the place I have indicated in a condition, in the same condition as the land along side of it for farming purposes?

A. I don't exactly catch your meaning.

(Question read.)

R. X Q. 5. That is, per acre.

549 Mr. TREADWELL: We object to the question on the ground that it is not cross-examination, and that the witness has not shown any knowledge of the expense of either building or unbuilding a canal or moving earth.

The MASTER: In my opinion it is not cross-examination, what it would cost to change the canal from where the right of way is now. Upon that ground I sustain the objection.

Mr. LANGHORNE: Note an exception.

Mr. TREADWELL: We introduce at this time a certified copy of the order of the Board of Supervisors of Merced County, dated the 20th day of June, 1904, in the matter of fixing the rate for irrigating lands under the San Joaquin and Kings River canal in Merced county, California, certified to by the County Clerk under date of the 13th of October, 1908, and ask that it be marked "Complainant's Exhibit No. 3."

Mr. LANGHORNE: We object on the ground, first, that it is incompetent; second, that it is irrelevant; third, that it appears from the face of the order that it refers to certain estimates and proofs which appear to have been submitted to the Board of Supervisors as a basis of said order, and that such estimates and proofs, and testimony, are not a part of said certified copy of said order, nor are they offered in evidence with it.

Mr. TREADWELL: Do you make that objection on behalf of all the defendants?

Mr. LANGHORNE: Yes, that was the understanding the other day.

The MASTER: I overrule the objection.

Mr. LANGHORNE: Note an exception.

(Marked: "Complainant's Exhibit No. 3.")

550 Mr. TREADWELL: I will also offer in evidence an order of the Board of Supervisors of Fresno county, dated June 29, 1904, in the matter of the petition of C. H. Banta, et al., asking the Board to fix water rates of the San Joaquin and Kings River Canal & Irrigation Co., and certified by the Clerk under date of the 13th of October, 1908, and ask that it be marked "Complainant's Exhibit No. 4."

Mr. LANGHORNE: Defendants object to the introduction in evidence of the order last referred to, upon each of the grounds hereinbefore stated as objections to the introduction of the similar order as

to the County of Merced, namely, Complainant's exhibit No. 3.

The MASTER: The same ruling.

Mr. LANGHORNE: Defendants note an exception.

(Marked: "Complainant's Exhibit No. 4.")

Mr. TREADWELL: I will also offer in evidence a resolution of the Board of Supervisors of the County of Stanislaus fixing and establishing water rates of the San Joaquin and Kings River Canal & Irrigation Co., dated the 25th day of June, 1907.

Mr. LANGHORNE: Defendants object to the introduction of the order last mentioned in regard to Stanislaus county, on each of the same grounds as hereinbefore mentioned in regard to the introduction of the order of June 19, 1904, in regard to Merced County.

The MASTER: The same ruling.

Mr. LANGHORNE: Defendants except.

(The last offer being evidenced from the files of the court herein, was not marked as an exhibit, but was ordered transcribed into the record, as follows:)

Resolution of the Board of Supervisors of the County of Stanislaus Fixing and Establishing Water Rates of the San Joaquin and Kings River Canal & Irrigation Company.

551 The San Joaquin and Kings River Canal & Irrigation Company, Incorporated, having presented to and filed with this Board, in accordance with Section 6 of the Act of March 12, 1885, "To regulate and control the sale, rental and distribution of appropriated water in this State, other than in any city, city and county, or town therein, and to secure the rights of way for the conveyance of such water to the places of use," a petition praying this Board to proceed anew, in the manner provided by said Act, to fix and establish the water rates for said corporation in this county; and notice of said application having been duly published, and the Board having heard the evidence, now estimates that the value of the canals, ditches, flumes, and all other property actually used by said corporation and useful to the appropriation and furnishing of its appropriated water to the inhabitants of this county is the sum of $335,456.32; and that the annual reasonable expenses of said corporation, including the cost of repairs, management and operating said work, so far as relates to this county, is the sum of $35,000, and thereupon it is ordered that the maximum rates at which said corporation may and shall sell, rent, or distribute to the inhabitants of this county water for irrigation, are hereby fixed and regulated at the sum of $1.50 per acre per season, from and after the first day of July, 1907.

It is further ordered that the Clerk of this Board forthwith cause this resolution to be published in full in the Stanislaus County Weekly News, a newspaper printed and published in the County of Stanislaus, State of California, for not less than thirty days after the first publication thereof. The above resolution was passed and

adopted by the unanimous vote of the Board this 25th day of June, 1907.

Attest:

S. B. MITCHELL,
Clerk of the Board of Supervisors,
By GEORGE FINK, *Deputy.*

(Further hearing adjourned to Thursday, October 15, 1908, at 10 a. m.)

NOTE BY REPORTER.—The Examination of the witness Charles Z. Merritt followed in chronological order the testimony of Robert N. Goodwin, which closed on page 132 of this transcript, but is placed in the transcript out of its regular order for the purpose of keeping unbroken the transcript of testimony of Robert N. Goodwin.)

552 Examination-in-chief of CHARLES Z. MERRITT, called for complainant; sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Merritt?

A. In Oakland, California.

Q. 2. What is your business?

A. I am secretary of the San Joaquin and Kings River Canal & Irrigation Co., Incorporated, and also connected with the corporation of Miller & Lux, Incorporated.

Q. 3. How long have you been secretary of the complainant, the San Joaquin and Kings River Canal & Irrigation Co., Incorporated, and its predecessor in interest The San Joaquin and Kings River Canal & Irrigation Co.?

A. Over twenty five years.

Q. 4. What have been your duties in connection with the company?

A. I keep the records of the company and receive the reports of the superintendent and enter them or cause them to be entered in the books of account.

Q. 5. Have you had charge of the books of account of that company during that period?

A. I have.

Q. 6. Did the company keep ordinary books of account such as are ordinarily kept by mercantile concerns?

A. They did.

Q. 7. Do you remember the names of the secretaries before your time, of the company?

A. My immediate predecessor was Mr. Frank L. Palmer, and his predecessor was Mr. Holmes. I don't recollect his initials.

Q. 8. Do you know where they are now?

A. Mr. Holmes is dead. Mr. Palmer is living in Pomona, California. There was, I think, another secretary, Mr. Sweezy, I think, at the very beginning. Those I believe were all the secretaries.

Q. 9. Do you know anything about Mr. Sweezy?

A. I know he is dead too.

Q. 10. Since you have been the book-keeper of the con-
553 cern, have the books of account been kept in a correct and regular form?

A. Yes.

Q. 11. Have you had occasion to examine the books of account of the company during its entire existence?

A. Yes.

Q. 12. Did you testify in regard to those books in a previous case between the San Joaquin and Kings River Canal & Irrigation Co. and the County of Stanislaus in this court in about 1897 or 1898?

A. Yes.

Q. 13. And did you examine the books at that time for the purpose of giving testimony in that case?

A. I did.

Q. 14. Very carefully or otherwise?

A. Carefully.

Q. 15. Were the books produced on that hearing?

A. They were.

Q. 16. And thrown open to examination of counsel for the county?

A. Yes.

Q. 17. From your examination of the books prior to the time you became secretary, did they appear to be kept, so far as you could determine from an examination of them, in a business-like and regular manner?

A. Yes.

Q. 18. So far as the examination of the books would determine, they were correctly kept?

A. Yes.

Q. 19. During your incumbency as secretary, have you also kept the regular books known as stock ledgers and stock journals, showing the issuance and transfer of all shares of stock in the corporation?

A. Yes.

Q. 20. And these books do correctly show, do they, or not, all of the stocks issued and the transfers of that stock?

A. They do.

Q. 21. Where has been the office of the complainant and its predecessor during these years?

A. In this city.

Q. 22. In San Francisco. And does it have any branch office of the superintendent elsewhere?

A. Yes the superintendent's office was, at the beginning
554 of my term, in Central Point, and was afterwards transferred to Los Banos, when that was started.

Q. 23. And are books kept at those places also?

A. They are.

Q. 24. But the main book-keeping system of the company was in San Francisco?

A. Yes. The superintendent's books are closed annually and the contents appear in the secretary's books in San Francisco.

Q. 25. Where are the stock ledgers and stock journals of the company now?

A. Most of them are lost in the fire. I still have the stock ledger. It was in use at the time of the incorporation of the company. It shows all of the accounts from the beginning until the old company was transferred to the present corporation; that is to say, during the entire history of the old company.

Q. 27. That you still have?

A. That I still have; but the book of certificates which contained the stubs of all issued stock, and the transfer journal, were lost in the fire.

Q. 27. What became of your books of account?

A. The journal and ledger and cash book that were in use at the time of the fire were destroyed, or so nearly so that they are practically useless. The journal and ledger were preserved as charred remains only. The cash book I think was entirely destroyed. But I am not certain of the extent of the damage to the cash book without going back to look. At all events those charred remains are still in our vault and I have had occasion once or twice to refer to them and have made out some of the records with difficulty. Some of the older books were preserved, but I can't say offhand just what they are, because I have not searched them out so as to know just what we have. Many of the superintendent's older books which had been sent in here for safe keeping were lost in the fire.

Q. 28. What was the total number of shares of stock of the San Joaquin and Kings River Canal & Irrigation Co.?

A. One hundred thousand shares.

555 (By the MASTER:)

Q. 29. Are you referring to the old company or the new?

Mr. TREADWELL: I am referring to the predecessor of the complainant.

Q. 30. When was that company organized?

A. In 1871.

(By Mr. LANGHORNE:)

Q. 31. You are now speaking of the one formed in 1871? You said stock was 100,000 shares?

A. 100,000 shares.

(By Mr. TREADWELL:)

Q. 32. What was the par value of those shares?

A. $100.

Q. 33. Can you give us the names of the people to whom that stock was originally issued?

A. Do you want also the number of shares?

Q. 34. The names and number of shares.

A. John Bensley, 8500 shares; John Bensley, 15000; John Bensley, 3900 shares; William S. Chapman, 8500 shares; I. Friedlander, 8500 shares; Nicholas Luning, 8500 shares; J. Mora Moss, 8500; A. H. Rose, 8500; Miller & Lux, 8500; Charles Webb Howard,

8500; J. C. Wilmerding, 4250; R. N. Brereton, 4250; H. & W. Pierce, 1000; A. J. Pope, 1000; W. C. Talbot, 500, Haggin & Tevis, 1000; E. F. Northam, 850; E. W. Burr, 250; making a total of 100,000.

Q. 35. Was there a company that you have heard of that existed prior to the incorporation of the San Joaquin and Kings River Canal & Irrigation Co. in 1871, from which company, and from the stockholders, and promoters of which, that company received certain property?

A. Yes.

Q. 36. What was the name of that corporation?

A. The San Joaquin and Kings River Canal Co.

Q. 37. Did the books of the company show the amount that each one of the subscribers to its stock paid into the company for that stock?

556 Mr. LANGHORNE: We object to that, if your Honor please, because the entry in the books of the company would not show that the stockholders had paid that amount for the stock. That would not be evidence of payment. My objection is on the ground that the evidence is incompetent.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We note an exception. Without delaying the case, I would like it understood, with the consent of your Honor and counsel, that all of this testimony is subject to the same objection and exception, on the ground that it is incompetent and not the proper way to prove the payment of money into the corporation and also on the ground that it is irrelevant, on the ground that what stockholders may have paid for their stock is irrelevant as to any issue on the value of the property in an enquiry of this nature.

Mr. TREADWELL: It is admitted that that objection may be considered as made to all this class of testimony, and that the same exception may be noted.

(Q. 37 read.)

A. Yes.

Q. 38. What was the amount shown by these books to have been paid by each of the persons to whom the stock was issued, per share?

A. $10.15 per share.

Q. 39. So the books show then that on this 100,000 shares they had been paid for at $10.15 a share?

A. $10.15 a share.

Q. 40. How was that paid? At one time or otherwise?

A. By assessments which were levied from time to time by the board of directors, and also in the property that was received from the old company, that was applied on the value of the stock.

Q. 41. Now which shares of stock were taken in whole or in part, for property of the old corporation?

A. 15,000 shares.

Q. 42. And to whom was that 15,000 shares issued?

557 A. John Bensley.

Q. 43. How was that stock paid for?

A. It was made non-assessable up to a certain amount. After the other stock-holders had paid in a certain stipulated amount, that stock was subject to assessment the same as any other.

Q. 44. What was that amount?

A. I don't recollect the figures now.

Q. 45. You have refreshed your memory now from the testimony which you gave in the prior case between this company and Stanislaus county, have you not?

A. I have.

Q. 46. You made notes of it, and so far as those figures are concerned, the figures that you give here in some cases refresh your memory, and your memory is refreshed from books which you have in your office now?

A. Yes.

Q. 47. That is correct is it?

A. That is correct.

Q. 48. Now what was the amount that was non-assessable on that 15,000 shares of John Bensley?

A. $7.50 a share was the amount to which the 15,000 shares was unassessable.

Q. 49. Now above that did that stock also pay in the same amount that the others did pay, up to the $10.15?

A. Yes.

Q. 50. And for what property did the books show that that non-assessable agreement was given?

A. For the right of way that had been acquired at that time for the ditch that had actually been constructed at that time, and headworks, and water rights of the old company, and all other property which it owned at that time.

Q. 51. Will you refresh your memory just a moment on that now. Wasn't it all the work that had been done, was not all that paid for in cash—all the money that the old company had actually expended for work, wasn't there a cash payment for that?

A. Yes, I believe that was true. I had forgotten that.

Q. 52. So that there was a certain payment by the San Joaquin and Kings River Canal & Irrigation Company to the old
558 company, the San Joaquin and Kings River Canal Co., for the expenditures which it had made up to that date, and that was entirely separate, was it not? It showed on the books as being entirely separate from the payment to John Bensley and those people, or rather the agreement with John Bensley and those people in regard to this 15,000 shares of stock?

A. Yes.

Q. 53. Now then, what is your recollection as to what the books show the 15,000 shares of stock were issued for?

A. For water rights, &c., and rights of way.

Q. 54. And what did that amount to altogether?

A. $112,500 for the water rights, &c., which was paid for by making the stock unassessable up to the value of $7.50.

(By Mr. LANGHORNE:)

Q. 55. That is, to Bensley?
A. To Bensley, yes.

(By Mr. TREADWELL:)

Q. 56. Did the books also show the amount that the San Joaquin and Kings River Canal & Irrigation Co. paid to that company for canals that had been constructed and work that had already been done and money expended?
A. Yes.
Q. 57. And what was the amount of that?
A. $119,335.29.
Q. 58. Was there any other case in regard to this stock which was issued where any more or less was paid than $10.15 in cash, that you remember?
A. The records showed one case where stock was sold for nonpayment of assessment, presumably, and realized to the company $1.65 a share more than the amount of assessments due. That is, it was sold at $6.60 and the amount of assessments due was $5.15.
Q. 59. Making a profit to the company of what?
A. Of $1.45 on 8500 shares.
Q. 60. How much did that amount to altogether?
A. $12,325.
Q. 61. Then taking all of the original subscription to this stock, how much did it amount to altogether?
559 A. The assessments of $10.15 a share, plus the excess received on the sale of 8500 shares, amounted to $1,027,325.
Q. 62. As I understand you, that was all paid in cash with the exception of $112,500 that was taken for the water right and right of way?
A. Yes.
Q. 63. Besides this original contribution by the stockholders, does there appear by the books of the company any future or subsequent contribution of money to the company?
A. Yes, by way of undivided profits that were used for construction purposes or for the increase of the plant.
Q. 64. That is, the books showed at certain stages, certain undivided profits which never were distributed in dividends, but which were converted back into the extention of the plant?
A. Yes.
Q. 65. Now do you remember the amount of those undivided profits that appeared by the books up to November 26, 1886?
A. Yes. The amount was $60,349.25.
Q. 66. And as I understand you, the books showed that up to that time that amount had been put into construction?
A. Yes.
Q. 67. After that time and up to November 25, 1898, did you compute the amount which the books then showed had again accumulated in the way of undivided profits?

A. I did. But the memorandum which I have here brings it up to a later date. The amount at that time was $158,112.58, and there was on hand at that time $23,219.20 in cash, leaving $134,893.38 which had been invested in extension.

Q. 68. Now do I understand that since that time there has been a further undivided profits invested?

A. There have, yes.

Q. 69. Have you got those with you?

A. Up to November 25, 1907 the additional profits invested in extension amounted to $97,664.53.

560 Q. 70. And can you give now the total contribution, including the original amount of $1,027,325 and these undivided profits?

A. The total contribution up to November 25, 1907, including the undivided profits was $1,320,232.16.

Q. 71. Can you give, Mr. Merritt, any nearer than those dates of rests that we have given here in the account, as to those undivided profits, anything more accurate as to when those undivided profits were turned into construction; during what periods? Is it possible from the books for you to give any more definite figures on that score? Take, for instance, the first item, $60,349.20. Do you remember as to during what period that was turned back into construction?

A. That covered all the period from the time they began earning until the date it was given, during which time the books had not been closed so as to show annual profits. They were closed at that date so as to show the net profit which at that time had been earned and invested, and from that time on the books were closed annually, so as to show the annual profits, the net profits. But I can't give the net earnings for every year for the reason that some of my records were lost.

Q. 72. Now can you give the dividends declared by the company as shown by its books?

A. Yes.

Q. 73. Give the year and the amount.

A. In 1881 there was a dividend of 50 cents a share; in 1882, 40 cents; in 1883, 25 cents; in 1885, 15 cents; in 1887, 20 cents; in 1888, 10 cents; in 1890, 10 cents; in 1890 again, 10 cents; in 1891, 25 cents; in 1892, 25 cents; in 1893, 40 cents; in 1894, 40 cents; in 1895, 40 cents; in 1896, 20 cents; in 1897, nothing; in 1898, 10 cents; in 1899, 30 cents; in 1900, 40 cents; in 1901, 50 cents, in 1902, 30 cents; in 1903, 30 cents; in 1904, 75

561 cents; in 1905, 30 cents; in 1906, 10 cents; in 1907, 10 cents.

Q. 74. What is the total amount of those dividends?

A. $6.85.

Q. 75. Per share?

A. Per share.

Q. 76. How many years does that cover from the first dividend to the last?

A. From the first dividend?

Q. 77. No, from the time the company was started, from the time construction started until the last dividend.

A. From the time construction started to the last dividend was a space of 37 years, but that would not be the average date of the contribution.

Q. 78. Now some of those early contributions went over a period of about how many years?

A. I think those assessments were levied at various intervals during a period of about four years, or five perhaps. I can't be certain on that point.

Q. 79. Say about how many years would be the average covered by those dividends?

A. Probably 34 years; not covered by the dividends.

Q. 80. Covered by the contributions?

A. Yes. These represented dividends resulting to the stockholders for a contribution made 34 years before the last dividend was paid, approximately.

Q. 81. That is, you are referring now to the $10.15 contribution and not to the contribution of invested profits?

A. Not to the contribution of invested profits.

Q. 82. How much does that amount to a year?

A. The invested profits?

Q. 83. Yes, the dividends, $6.85 for 34 years.

A. Oh, you mean what percent. would that be?

Q. 84. What per cent.

A. 20 cents a year for the 34 years.

Q. 85. And what per cent. is that on the investment of $10.15?

A. 2 per cent.

562 Q. 86. How much per share do those undivided profits amount to, which were contributed?

A. $2.93.

Q. 87. And if you add that to the total amount of dividends, how much does that show in profits per share?

A. $9.78. per share.

Q. 88. That is to November 25, 1907?

A. Yes.

Q. 89. And what per cent. is that on the $10.15 contributed?

A. About 2.8.

Q. 90. You do not refer, I believe, to the dividend of 60 cents in 1887? You didn't include that, did you?

A. No.

Q. 91. Was there such?

A. Yes.

Q. 92. What was that?

A. It was a dividend in distribution of the proceeds of sale of a piece of land which the company had owned and sold at that time.

Q. 93. Do you know what it was sold for?

A. Approximately $60,000. I have not looked back on the books and I don't know whether I could discover it on the books that are remaining.

Q. 94. That was the sale of some land?

A. Yes.

Q. 95. And you realized $60,000?

A. About that.

Q. 96. Do you remember what the books showed that land cost, or not?

A. No I do not.

Q. 97. At any rate the land was sold and the proceeds were divided up?

A. Yes the proceeds were divided up as a separate dividend. The stockholders subscribed to a statement of fact that it was the proceeds of sale of the company's land.

Q. 98. You also referred to a dividend here in 1904, of 75 cents. That dividend was higher than the other dividend?

A. Yes.

Q. 99. Do you remember how that was caused?

563 A. Yes, most of that came from the payment received from Miller & Lux of $66,000 for undercharges made by the company in its annual bills for some years previously, on account of an inadvertent misconstruction of the contracts.

Q. 100. And there was a dispute between Miller & Lux and the canal company over that, was there?

A. Well there was hardly a dispute.

Q. 101. State the facts.

A. The facts were that we had assumed that Miller & Lux had a special rate of one-half of the regular rate for all crops which they raised—for all land which was irrigated by them, I should say, on which they raised only one crop in a year. That was the construction that had been placed on the contract, because when the contract was made that was what it amounted to. The rate was then $2.50 a year. They were then by their contract given a special rate whenever they raised only one crop, of $1.25 a year, and that being half of the regular rate, we had grown into the habit of considering that they had the rate of one-half of the regular rate. And when the rate was cut down to less than $2.50 a year, we followed that old custom of making out a bill against them for land on which they had raised only one crop, at one-half of the regular rate. In 1904 I happened to be reading over the contract for some other purpose and it struck me that that was not a correct construction of the contract, and I brought it to Miller & Lux's attention and they said that we would better get legal advice on the construction of the contract with special reference to that point, and the contract was accordingly submitted to the company's attorney and to Miller & Lux's attorney for advice. They didn't agree, and we finally called in Mr. McEnerney to give his opinion, and as the result of it all it was decided against

564 Miller & Lux, and Miller & Lux—we made out a supplementary bill against them and they paid it to the amount of sixty-six thousand and some odd dollars.

Q. 102. That was the cause of that?

A. That was the cause of that. Mr. Miller didn't think it was just, but he submitted rather than to have any question about it.

Q. 103. Now outside of the amount paid to Bensley for the right

of way and water rights which he claimed, did the company enter into contracts with any other people for the purpose of acquiring whatever water rights they had?

A. Yes, they made such a contract with Miller & Lux.

Mr. LANGHORNE: We object to that. I didn't know exactly what the question was going to be. I ask the answer be stricken out until I make my objection.

Mr. TREADWELL: You want the contract?

Mr. LANGHORNE: Yes, I ask that the contract be produced.

(By Mr. TREADWELL:)

Q. 104. I show you a contract between the San Joaquin and Kings River Canal Co., a corporation, and Henry Miller and Charles Lux, made on the 18th day of May, 1871, and signed by the San Joaquin and Kings River Canal Co. by John Bensley, President, Henry Miller and Charles Lux, attested by L. B. Bensley. Is that one of the contracts you referred to?

A. It is, in the sense that subsequent contracts were based on this, to a certain extent.

Q. 105. That is the contract with the old company, the original company?

A. Yes sir.

Mr. TREADWELL: I offer that in evidence and ask that it be marked "Complainant's Exhibit No. 6." (So marked.)

Q. 106. I also show you a contract between Henry Miller and Charles Lux and the San Joaquin and Kings River Canal and Irrigation Co., dated February 7, 1872, and signed and acknowledged by the parties, and ask you if that is one of the contracts you referred to?

565

A. It is.

Mr. TREADWELL: We offer that in evidence and ask that it be marked "Complainant's Exhibit No. 7." (So marked.)

Q. 107. Also a contract dated the 12th of November, 1879, between the San Joaquin and Kings River Canal and Irrigation Co., and Henry Miller and Charles Lux, signed and acknowledged by the parties, and ask you if that is another one of the contracts you referred to?

A. It is.

Mr. TREADWELL: I ask that that be received in evidence and marked "Complainant's Exhibit No. 8." (So marked.)

Q. 108. Also a contract dated December 24, 1897, between the San Joaquin and King- River Canal and Irrigation Co., and Miller and Lux, a corporation, and ask you if that is one of the contracts you referred to?

A. It is.

Q. 109. I note on this a mark at the top where there is written the word "Succeed" and over it—it has been scratched out and in pencil is written the word "Exceed." A mere clerical error, is it?

A. Yes, it was corrected at the time.

Mr. TREADWELL: I ask that that be marked "Complainant's Exhibit No. 9." (So marked.)

Q. 110. Also agreement of the 18th of May, 1899 between the San Joaquin and Kings River Canal & Irrigation Co. and Miller & Luz, a corporation, and signed by the parties, and I will ask you if that is one of the contracts that you referred to?

A. It is.

Mr. TREADWELL: I ask that that be admitted in evidence and marked "Complainant's Exhibit No. 10." (So marked.)

Q. 111. Miller and Lux, the corporation mentioned in this contract, is the successor of Henry Miller and Charles Lux, co-
566 partners, is it, mentioned in the contracts?

A. It is.

Q. 112. Do you know whether or not those companies own large tracts of land or whether that company owns or did own at the time of these contracts, large tracts of land along the San Joaquin river?

A. The firm owned large tracts of land along the San Joaquin river, which afterwards passed to Miller & Lux, a corporation.

Q. 113. Did anyone else outside of Miller & Lux, and Miller & Lux, a corporation, make any objection to the canal company taking water out of the river, and do you know of any contracts or payments that you had to make to other people outside of Miller & Lux and Bensley and his people, as has been shown, for the privilege of taking water from the river?

Mr. LANGHORNE: We object to that on the ground that it has not been shown here by the witness or in any manner that Miller & Lux ever made any objection to their taking any water out of the river. Counsel's question assumes that.

Mr. TREADWELL: I said anybody besides them. I will withdraw the question and put it in a different form.

Q. 114. Has the company, so far as you know—the canal company—entered into contracts with other people besides Miller & Lux for the purpose of getting the privilege of taking water from the San Joaquin river?

A. They have entered into other contracts bearing upon their rights.

Q. 115. That is in later years?

A. In later years, yes.

Q. 116. For the purpose, I suppose, of settling and adjusting what their rights were?

A. Yes to settle disputes in regard to their rights to take water.

Q. 117. Has any person attempted to object to the taking of water out of the river by the canal company, or brought any proceedings to prevent it from doing so?

A. Yes.

567 Q. 118. Who?

A. J. J. Stevenson and the Stevenson Company, and I

suppose the Eastside Canal Co. was a party to this suit, it being the property of Mr. Stevenson.

Q. 119. The Eastside Canal Co. and J. J. Stevenson are substantially the same thing?

A. Yes.

Q. 120. And those people at any rate, representing that interest, have objected to the taking of water and have brought suits for the purpose of preventing it?

A. Yes.

Q. 121. And do you remember about what year they first did so?

A. I could not speak with certainty.

Q. 122. But is there any other person outside of Stevenson and the Stevenson people who have in any way any action pending for the purpose of preventing us from taking water as we have heretofore done?

A. No, no action pending at this time.

Q. 123. How long have you been personally familiar with the fact that the canal company has been taking water from the river?

A. I don't know exactly what would be implied in that question. If it means how long since I actually saw it taking water——

Q. 124. I think that is what it should be limited to.

A. I can't give the date offhand. I presume it was fifteen or twenty years since I first visited the headworks, and I don't know what date it was.

Q. 125. And the canal was at least taking water at that time from the river?

A. Yes.

Q. 126. And has it ever since continued to do so?

A. It has.

Q. 127. And it has claimed the right to do so?

A. It has.

Q. 128. And it has done so openly?

A. Yes.

Q. 129. And adverse to everybody?

A. Yes.

Q. 130. Have you asked anybody's permission?

A. Not to my knowledge.

568 Q. 131. Under these contracts that have been introduced in evidence, and their various modifications, has the canal company furnished water to Miller & Lux?

A. Yes.

Q. 132. And have they paid for the water under these contracts?

A. Yes.

Q. 133. Have you made any computation, Mr. Merritt, which would show the difference between the amount that Miller & Lux would have paid if it had paid in accordance with the amounts that the company and the board of supervisors had regularly established as its rates, and the amount that it has paid under these contracts?

A. I have.

Q. 134. Will you give a summary of that, Mr. Merritt, what that difference is?

A. My records did not enable me to cover the whole period during which they have done business together. I have made it, however, from the year ending June 30, 1887, to the year ending June 30, 1903. Do you wish me to give it year by year?

Q. 135. I think probably there will be more information if you give it year by year and then give the result afterwards.

A. The saving to Miller & Lux by virtue of their special rate for the year ending June 30, 1887, was $10,462.50; 1888, $14,600; 1889, $7,225; 1890, $5,942.50; 1891, $11,006.25; 1892, nothing; 1893, $4,350; 1894, $7,767.50; 1895, $4,788; 1896, $9,142.50; 1897, $16,477.50; 1898, $18,570.50; 1899, $22,398.75; 1900, $24,293; 1901, 17,892.75; 1902, $22,636.26; 1903, $14,875.04; making a total for the period, of $212,428.06, or an average of $12,495.77 per year.

Q. 136. How much has that average of $12,495.77, if capitalized at six per cent, amounted to?

A. It would amount to $208,263.

Q. 137. Did Miller & Lux pay anything to the company for the rights granted, in cash?

A. Yes.

569 Q. 138. What did that amount to?

A. $33,333.33.

Q. 139. And taking that away from this amount, $208,263, what does that amount to?

A. $174,929.67.

Q. 140. That would be the net amount then, according to these figures, figuring it in that way that Miller & Lux got by that contract?

A. Yes.

Q. 141. Now you stated that the books showed that Miller & Lux, at the time of the corporation or at the time of the original issue of stock of the company, had 8500 shares of stock in the canal company. At the time of the entering into the contract between Miller & Lux and the canal company of February 7, 1872, did Miller & Lux have any controlling interest in the stock of the canal company?

A. No.

Q. 142. Miller & Lux has since acquired additional stock in the company, in the complainant company, has it?

A. Yes.

Q. 143. Will you give the dates of the acquisition of stock by Miller & Lux in the canal company?

A. September 9, 1871, 8500 shares; March 8, 1876, 4725 shares; October 11, 1877, 4650; November 8, 1877, 3900 shares; March 20, 1878, 100 shares; October 11, 1878, 28,400 shares; October 19, 1880, 100 shares; July 21, 1888, 3778 shares; September 8, 1888, 100 shares; September 21, 1888, 100 shares; December 3, 1891, 150 shares.

Q. 144. What is the total of that?

A. 54,503 shares.

Q. 145. So that Miller & Lux now has the majority of stock of the canal company?

A. Yes.

Q. 146. Besides that and since this last purchase by Miller & Lux, a corporation, has Mr. Miller personally acquired additional stock, either in his own name or in the name of his private corporation known as the Las Animas and San Joaquin Land Co.?

A. Yes.

Q. 147. What is the Las Animas and San Joaquin Land
570 Co.?

A. A corporation owned by Mr. Miller.

Q. 148. It simply holds his property?

A. It simply holds his property.

Q. 149. Mr. Henry Miller's?

A. Mr. Henry Miller's.

Q. 150. Will you give me the amount that either Mr. Miller or that corporation has acquired and the dates of its acquisition in the canal company.

A. November 7, 1894, 500 shares; November 21, 1891, 8100 shares; January 8, 1895, 500 shares; February 19, 1897, 4941 shares; July 12, 1899, 1000 shares; October 9, 1902, 4691 shares; July 21, 1904, 800 shares; July 31, 1907, 1167 shares; September 21, 1907, 1000 shares; total 22,699 shares.

Q. 151. Are there shares of stock in the company still outstanding in third persons not connected with Miller & Lux in any way?

A. Yes.

Q. 152. How many shares of stock still outstand in other individuals?

A. 19,334 shares.

Q. 153. Are those all held by persons in no way connected with Miller & Lux?

A. Yes.

Q. 154. Will you give a list of those and the names of the owners of them?

(The witness furnished a typewritten answer, which by agreement of counsel on both sides is transcribed into the record as follows:)

Name of Stockholders.	Shares.
Allyne, Mrs. Mary N.	62½
Bell, Jas. E.	1913
Baum, Rudolph W.	1167
Baum, Mrs. Eliza.	1167
Burr, C. C.	125
Cunningham, Mrs. Clara E.	800
Dressel, Gustav F.	1167
Dutton, Henry F.	100
Haggin, J. B.	500
571 Holly, Mrs. Helene	1000
Holman, Mrs. Lucy B.	62½

Keeney, Adele M.	100
" Innes S.	125
" James W.	100
" " (Guardian of Chas. C. Kenney)	100
" " (Guardian of Helen M. Keeney)	100
" Mary A.	100
" Leontine S.	125
" " (executrix)	125
Lincoln, Mrs. Philinda G.	500
Martin, Mrs. Pauline	750
Monteagle, Louis F.	323
Newman, Simon, Trustee	250
Pacific Realty Co., The	500
Paige, Calvin	4000
Pierce, Mrs. Sophia G.	100
Pope Estate Co.	1000
Talbot, Frederick C.	100
Talbot, Wm. H.	100
Tomlinson, Ethel K.	125
Walker, Emily F.	100
Whittel, Geo.	2397
Wood, E. L.	150
	19334

Q. 155. Do those nineteen thousand odd shares held by other people have representatives on the board of directors of the canal company?

A. Yes.

Q. 156. Have any disputes ever arisen between Miller & Lux and the canal company, Mr. Merritt?

A. Yes.

Q. 157. In relation to what matters?

A. Do you wish to go back as far as the '70s?

Q. 158. Well, that is a good ways, but you might briefly state what you refer to.

A. Well I was only referring to the company to show that there was a dispute in the '70s which was settled by arbitration.

Q. 159. That appears in the books of the company?

A. Yes, there was a settlement which resulted from the—I think there was a suit brought, but it was finally settled outside.

Q. 160. Some of these contracts were for the purpose of settling that dispute?

A. Yes.

Q. 161. Now coming down to the later years, have disputes arisen between the canal company and Miller & Lux?

572 A. Yes, there have been differences, a few, as to some matters.

Q. 162. I use the word "Disputes" but I mean, have questions arisen where there was a diverse interest of the two?

A. Yes.

Q. 163. And how did you settle those matters?

A. In one case I recollect there was a question of damages to land that had been flooded by the breaking of the canal: and the method at that time was to have a meeting of the board of directors, at which directors representing the minority of the stockholders were present, and even Miller & Lux's superintendent, who was conversant with the facts, and the superintendent of the canal company, who was also cognizant of the facts, appeared before the board and stated the case and left it for the board to decide. Miller & Lux's representative, Mr. Miller, who was present, refraining from voting on the subject himself.

Q. 164. Now you have already referred in the latter part of your testimony, to doubt as to the particular method of charging Miller & Lux for water?

A. Yes.

Q. 165. How was that adjusted?

A. By referring the matter to the attorney of each corporation, and when they did not agree, calling in a third attorney to construe the contracts.

Q. 166. Do you remember when this contract of 1899 was entered into?

A. Yes.

Q. 167. Do you remember whether that was taken up with the minority stockholders?

A. I have not refreshed my memory on this particular point, but my recollection is that there was a meeting of the stockholders at which this was submitted to them. At any rate that it was submitted to the directors who represented the minority stockholders. There was one time when I know they brought up some question of that sort at the stockholders' meeting for the purpose of making sure that the stockholders all understood the mat-
573 ters in issue, and had an opportunity to express themselves.

Q. 168. At any rate, this was submitted to the minority directors?

A. Yes.

Mr. TREADWELL: That is what I meant.

Further hearing adjourned to Friday, October 16, 1908, at 10 a. m.

FRIDAY, *October* 16, 1908—at 10 a. m.

Counsel Appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of CHARLES Z. MERRITT, resumed

By Mr. TREADWELL:

Q. 169. Mr. Merritt, in giving your computation of the amount saved annually by Miller & Lux by virtue of the contracts they had giving them a special rate, you only come down to 1903. Why did you omit the years after that?

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A. In 1904 I did not have figures that I could rely upon, and after that the board of supervisors had fixed a rate which was so low that there was no advantage to Miller & Lux by virtue of their special contract, that is, in Merced and Fresno counties.

Q. 170. In Fresno county the rate that you collected that year was less than the $1.25 rate?

A. The supervisors' rate which they collected in Merced county was $1.08, and in Fresno county, I think it was 67 cents,
574 or at any rate, it was considerably less than Miller & Lux's special rate, and that clause of the contract became dormant.

Q. 171. Beside the contracts which have been introduced in evidence, which you have entered into with riparian right owners, did you enter into any others?

A. Yes, with Miller & Lux and the California Pastoral and Agricultural Co., and also with those parties and Henry Miller and the heirs of Charles Lux.

Q. 172. Is the California Pastoral & Agricultural Co. an owner of land along the San Joaquin river there?

A. Yes sir.

Q. 173. And through these counties?

A. It is.

Q. 174. How does it compare its holdings with those of Miller & Lux?

A. Less than Miller & Lux but the largest of any other single owner.

Q. 175. I show you a contract dated the 17th day of August, 1898, between the San Joaquin and Kings River Canal & Irrigation Co., and the California Pastoral & Agricultural Co. and Miller & Lux, and I ask you if that is one of the contracts you referred to?

A. It is.

Q. 176. And was that executed by the parties whose names appear attached to it?

A. Yes.

Mr. TREADWELL: I offer that contract in evidence and ask that it be marked "Complainant's Exhibit No. 11." (So marked.)

Q. 177. I also show you a contract dated the 4th day of June, 1901, between the California Pastoral & Agricultural Co., a corporation, and Miller & Lux, a corporation, and the San Joaquin and Kings River Canal & Irrigation Co., a corporation, and Henry Miller and others, and ask you if that is one of the contracts you refer to?

A. It is.

Q. 178. Was that executed and delivered by the parties whose names appear upon it?

575 A. It was.

Mr. TREADWELL: I ask that that be admitted in evidence and marked "Complainant's Exhibit No. 12." (So marked.)

Q. 179. Those contracts, Mr. Merritt, what were the circumstances under which they were obtained?

A. Certain disputes had arisen between the parties as to their

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relative rights in the waters in the river and other matters, and these contracts were for the purpose of defining those rights as among themselves.

Q. 180. Settling and adjusting the disputes and defining the rights?

A. Yes sir.

Q. 181. I will ask you whether the company employed attorneys for the purpose of settling those disputes and obtaining these contracts?

A. It did.

Q. 182. Was it a matter of considerable labor and expense, the obtaining of those contracts?

A. Yes.

Q. 183. Could you give, or not, the amount that it cost to obtain these contracts?

A. I cannot.

Q. 184. Are you familiar with the property which is in the possession of the complainant?

A. Yes.

Q. 185. What does that property, in a general way, consist of?

A. The land at the headgate, the right of way for its canals, certain town lots with improvements and certain acre properties, the canals and structures used in the carrying of water and delivering it to the irrigators, the dredger and personal property of various sorts, implements and vehicles and horses and harness; household furniture, office furniture, stores and provisions, material of various kinds, a telephone line and telephone instruments connected with the line.

Q. 186. Are there any roads belonging to the company?

A. Yes, there are roads on the canal banks, and certain fences along the right of way also.

576 Q. 187. You refer to some land at the headgate. What is that, Mr. Merritt?

A. It is a strip of land lying along the river, from the mouth of Fresno Slough down below the San Joaquin river weir, which is used by the company for the purposes of its headworks, and containing some 74 and a fraction acres of land, as I remember it; no, 78.44 acres of land.

Q. 188. Is that so situated that it prevents anyone from taking the water above the dam of complainant, prevents them from getting an approach to the river?

A. From the dam of the complainant up to the head of Fresno slough, or at all above Fresno slough—up to China slough.

(By Mr. LANGHORNE:)

Q. 189. That is, from the dam up to——

A. Up to China slough—a little above that I believe.

(By Mr. TREADWELL:)

Q. 190. Did the canal company originally own more land around there?

A. Yes.

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Q. 191. And some of that land you sold?
A. Yes.
Q. 192. But you retained this strip that you have mentioned, for the purpose of maintaining the headworks?
A. For the purpose of maintaining the headworks.
Q. 193. Now you have referred to certain town lots that the company owns. Where are those located?
A. In Los Banos.
Q. 194. What was the purpose those were obtained for?
A. For erecting a house and stable for the use of the superintendent.
Q. 195. Is there a house on it?
A. Yes.
Q. 196. For that purpose?
A. Yes; a cottage and a stable.
Q. 197. Right at present is it being occupied by him?
A. No.
Q. 198. Why not?
A. At the time that that was erected we had a superintendent, a householder who had a family, and we had to provide a place for him to live. Later, after a change in the superintendency,
577 the new superintendent was a single man, and it was more economical and convenient to board him at Miller & Lux's ranch. He afterwards married a daughter of the superintendent of the ranch and continued to live there as a matter of convenience to him and his wife.
Q. 199. Is there any other acre property that you own, that the canal company owns?
A. Yes.
Q. 200. Outside of the right of way, I am talking about. Where is that? What was it obtained for?
A. In township 9 south, range 9 east, Mount Diablo meridian, there is one piece of land. We own the Jeffers place described as the west half of the southwest quarter of section 9 in 9-9, containing 80 acres, and another adjoining, which we call the Currier, described as fractions in the northeast quarter of section 8 and the northwest quarter of section 9, in 9-9, containing 66 acres.
Q. 201. What was the purpose of purchasing those lands?
A. Those were purchased from the men whose names the places still bear for the purpose of preventing damage suits after the construction of the outside canal. There was a gravelly stretch in that canal there through which the water seeped and was carried underground, under the main canal, and came to the surface at these places, damaging the land; and suits were threatened, so that it was deemed better policy to buy the land than to stand damage suits. We are using one of these places now for our section house; that is to say, the Quinto section house is—no I am not sure that it is the Quinto house; one of the section houses is on this land.
Q. 202. Besides the property that you have mentioned do you have on hand an amount of cash for the purpose of running the business?

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A. Yes. There has to be a certain amount of working capital reserved.

578 Q. 203. During the time that you have been secretary, what has been the general amount that you have reserved from dividends—from the profits, rather, for the purpose of running the business?

A. For many years we have reserved $20,000 at the time that the annual dividend was declared, in anticipation of expenses which will accrue before the next annual revenues are due, and at the time that that rule was adopted, it was a reasonably fair estimate of those expenses. As the systems have been enlarged and our expenses increased and litigation in defense of water rights and water rates has arisen, it is, as a matter of fact, entirely inadequate. We never have changed our custom, but the result has been that at *am*ny times we have overdrawn the treasurer's account to considerable amounts.

Q. 204. About what would be the necessary amount to keep the company running during the year, without overdrawing anything?

A. At least twice that.

Q. 205. Is your revenue a steady one per week or per month, or does it vary during different times of the year?

A. In that respect conditions have changed of late years, very much. Formerly the revenues came in during the months of July and August each year, very largely. The bills were all due on the first day of July of each year, and we made collections as vigorously as possible during the ensuing two months, but of course we were not able to collect all, so that the revenues were coming in in smaller amounts during the remainder of the year, but in the main, July and August were our months for the receipt of revenues. When the litigation commenced with Stanislaus county, a good many of the people there conceived the idea that it would be an advantage to them not to sign the annual contract, which we required all persons to sign who obtained water for irrigation on credit; and stated payments in advance arose at that time, so that more or less rev-

579 enue was received at other times of the year than in the months of July and August, depending on when any particular irrigator wished to get water for irrigation. That describes the condition of things up to the 30th of June last.

Q. 206. Have you made an examination of the books for the purpose of ascertaining when each of the canals of the company were constructed?

A. Yes.

Q. 207. Take the main canal as far as Los Banos creek. When was that completed?

A. About February 1, 1874.

Q. 208. And extension A, from Los Banos creek to Orestimba, when was that completed?

A. About September 26, 1878.

Q. 209. And extension B, from Orestimba creek to the present terminus, when was that completed?

A. About November 1, 1881.

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Q. 210. Now the parallel canal, do you divide that into sections also?

A. Yes. In point of construction it was built in three sections at different periods.

Q. 211. Well, referring to them then as Parallel No. 1, the first section, when was that completed?

A. In 1879.

Q. 212. And Parallel No. 2?

A. In 1883.

Q. 213. And Parallel No. 3?

A. In 1885.

Q. 214. Regarding the Dos Palos system, was that all constructed at one time, or continuously?

A. No.

Q. 215. What period did its construction cover?

A. The main part of the system, the principal part of the system, was completed sometime in 1894. There have been some extensions of the Dos Palos Canal and of some of the branches since that date, in 1903, and even later. There has been some work done quite recently on one of those branches.

Q. 216. When was the outside canal completed to Los Banos creek?

A. About November, 1897.

580 Q. 217. And from Los Banos Creek to Quinto Creek?

A. About February 1904. It was completed sufficiently to use it before that time, but there were certain parts of the work that were not finished until then.

Q. 218. The figures that you have put on I suppose take the last item in the construction account?

A. Yes. Unless I had information independently, of the accounts or following the last item of the accounts. In some cases I used to know that the items did not come in until after the work was finished, and so I arrived at the date by different means, whatever means were likely to give me the most accurate results.

Q. 219. When was the present weir across the river constructed?

A. In the latter part of 1898. It was finished about the end of November of that year.

Q. 220. In 1897 or 1898 did you make up a statement from your books showing the amount charged on those books to construction account up to November 25, 1895?

A. Yes.

Q. 221. And what was the total amount charged by the books to construction up to November 25, 1895?

Mr. LANGHORNE: We object to that as incompetent; also on the ground that it is irrelevant.

The MASTER: Because the books are not produced?

Mr. LANGHORNE: Because the books if they were produced would not show the expenditure of the money.

The MASTER: I overrule the objection.

Mr. LANGHORNE: Note an exception.

A. The amount charged to construction was $1,055,798.64.

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(By Mr. TREADWELL:)

Q. 222. Have you got a copy of the statement that you made at that time?

A. Yes I have a copy of it. (Producing).

581 Q. 223. The paper you produce is the statement you made at that time, taken from the books?

A. Yes.

Mr. TREADWELL: In connection with the testimony of this witness, I offer that in evidence.

Mr. LANGHORNE: Defendants object to the introduction of the statement in evidence, not on the ground that it is not a true summary of what the destroyed books of the company showed, inasmuch as it appears to be the same statement that was introduced in the former case against Stanislaus county; but my objection is on the ground that it is incompetent, and also on the ground that it is irrelevant; that the books themselves would be incompetent in that respect.

The MASTER: I overrule the objection.

Mr. LANGHORNE: Note an exception.

(Marked "Complainant's Exhibit No. 13").

(By Mr. TREADWELL:)

Q. 224. After making up that statement as to what the books charged to construction, did you go over the books for the purpose of verifying each of the items that were contained in that construction account and for the purpose of determining whether or not they really did constitute items of construction?

Mr. LANGHORNE: To save time it will be understood that my objections and exceptions apply to all evidence given by the witness as to what the books of the canal company showed in regard to the construction account or cost of construction, on the same grounds that I have first stated, and will apply to all similar questions.

Mr. TREADWELL: I understand counsel's objection. That is perfectly satisfactory.

A. Yes sir.

582 Q. 225. Were you able to determine from the books whether or not all the items which were charged to construction were properly chargeable to that account?

A. I found that the accounts charged or classed as construction accounts contained items of maintenance, and I was unable to segregate satisfactorily in all cases the actual construction items, being in doubt in many cases as to whether a certain item was Construction or Maintenance. I had previously reported to the board of directors the difficulty I found in examining the books for the purpose of ascertaining the cost of construction, and they had employed an expert to examine all the books and advise them as to how to arrive at a correct statement of the Construction account. He made a report, and on that basis, on the basis of his report I made this statement; but still, when the matter came up for proof, being unable, as I always had been unable, to segregate items of Maintenance

from items of Construction during the period before I had anything to do with the books, I went through them again and made up another statement of items which I could be certain belonged to Construction account, leaving out all questionable or mixed items, although I knew that the latter class of items contained a great many charges which properly belonged to Construction; being unable to say positively what items were Construction and what were Maintenance, I left them out entirely, so that the second statement which I submitted was a statement which showed the items of Construction so far as they could be identified, leaving a margin that was known to exist of items which ought to be charged to that account but were not, but the exact amount of which items could not be ascertained.

Q. 226. Now have you the second statement which you made, which you have just referred to?

A. I have.

583 Q. 227. Will you produce that statement.

A. (Producing.) This statement includes that statement, but I have added other items to it.

Mr. TREADWELL: The witness here produces statement headed: "Statement of cost of construction of the San Joaquin canal to December 31, 1873, and betterments since constructed therein, with cost of construction of parallels and extensions. This includes only items actually charged to Construction, and which can be identified from the accounts properly belonging thereto, and does not include charges for construction which cannot be positively so identified from the accounts alone." We offer for the purpose of illustrating the testimony of the witness, this statement, and ask that it be marked "Complainant's Exhibit No. 14."

Mr. LANGHORNE: Defendants object to the introduction of the statement on the same grounds as stated to the Exhibit No. 13.

The MASTER: The objection is overruled.

Mr. LANGHORNE: Exception noted.

(Marked "Complainant's Exhibit No. 14.")

(By Mr. TREADWELL):

Q. 228. Now if I understand you, Mr. Merritt, this second statement only includes those items which were set forth in the books of the company and charged to Construction, which you were able by an examination of the books to say were properly chargeable to that account? That is correct is it?

A. That is correct.

Q. 229. And where there was any item charged in the books so charged to Construction, but which you could not determine whether it was properly chargeable to Construction or should have been charged to Maintenance, that you eliminated?

A. Yes.

Q. 230. And after doing that, what was the amount shown by the books to have been charged to Construction up to the 25th

584 day of November, 1897?

A. $798,429.61.

Q. 231. Now what was the trouble with the method of bookkeeping that was in vogue in the earlier period of the company that caused your inability to determine definitely the other items, that is, the difference between $1,055,798.64 shown by the books to be charged to Construction, and the sum of $798,429.61 which you were able to trace to Construction?

A. The trouble was that the items representing cost of Construction and the items of Maintenance of the canal were all charged to one account, the San Joaquin Canal account.

Q. 232. And up to what date was that done?

A. Up to—I think it was the 25th of November, 1886. That was the date of the report of the expert who was employed to advise the company as to how to reform the books.

Q. 233. Yes, that is when the books were changed?

A. That was when the books were changed.

Q. 234. But do you mean——

A. From that time on Construction and Maintenance were carefully kept separate in the books.

Q. 235. Do you know when the first dividends were paid?

A. In 1881.

Q. 236. Well now, was there any connection in the books between the charging of items of Maintenance to Construction and the payment of dividends?

A. No.

Q. 237. Now this expert that you say was employed, when was that?

A. In 1886.

Q. 238. That was before you were in the employ of the company?

A. No I commenced in 1883, but it was after I had called the attention, as I have previously stated, of the board to the fact that it was impossible to determine the cost of construction and the cost of maintenance, to determine profit and loss on the basis that we were conducting the books; and this report was called for
585 by the board.

Q. 239. So, as I understand it, there was a period after the company began to do business and received money for water where the Construction account and Maintenance account were not separately kept?

A. Yes.

Q. 240. And for that reason there were some places where you could not tell how much of certain items should be charged to Maintenance and how much to Construction?

A. That is correct.

Q. 241. Now have you made a new and complete statement, Mr. Merritt, bringing this statement down to date, or down——

A. Down to November 25, 1907. I have, just as complete as I am able, with the books and statements that are at my disposal now. There are some points on which I am a little uncertain. I have put in only those things that I can be sure about.

Q. 242. In getting up this last statement that you have just re-

ferred to, and which you now produce, you have left the old statement just as it was, and added to it since that time?

A. Yes.

Q. 243. As shown by the books of the company?

A. Yes.

Q. 244. And this is a correct transcript of the books from the time the old account closes, in 1895, to the present time, so far as you are able to determine?

A. Yes. In this amended statement there is an item referring to Ledger B, page 433, measuring boxes in 1904, $1,064.31. Up to that point the statement was made up from the books before their loss, in 1904.

Q. 245. 1904?

A. Yes. The subsequent items which I have added to the statement I made up from the books as they now stand, but whether there were any other items that would have appeared if the books had not been partially destroyed, I am not quite certain.

586 Q. 246. Then as I understand you, in 1904 you made a continuation of Complainant's Exhibit No. 14 down to that date?

A. Yes.

Q. 247. June 1904?

A. Yes.

Q. 248. I suppose that was in connection with certain litigation with regard to these matters?

A. Yes.

Q. 249. And that statement you still have, which you made up at that time?

A. Yes.

Q. 250. And the balance is made up from the books? Isn't that it?

A. Yes.

Q. 251. This account which you produce now only contains the cost of construction which is shown by your books?

A. That is all, and not all of that.

Q. 252. And goes down to what date?

A. November 25, 1907.

Mr. TREADWELL: We offer that statement in evidence and ask that it be marked "Complainant's Exhibit No. 15."

Mr. LANGHORNE: We object to it on the ground that it is incompetent; secondly, irrelevant.

The MASTER: The same ruling.

Mr. LANGHORNE: Note an exception.

(By Mr. TREADWELL):

Q. 253. Will you state, Mr. Merritt, so far as you can, the amounts of this cost of construction which are applicable to each of the various canals or canal systems, so far as you can separate it, to the separate canals or canal systems?

A. I have not made any.

Q. 254. But have you got what the books showed to be the cost of each of the separate canals or canal systems?

Mr. LANGHORNE: Let it be understood that my objection to Exhibit 15 and exception will apply to all evidence given by the witness in relation to that exhibit, without repetition.

587 Mr. TREADWELL: Yes.

(The last paper offered by Mr. Treadwell was marked "Complainant's Exhibit No. 15.")

A. The statement shows in many items, to what particular system of canals the item refers, but that is not true with every item. I have not made a separate statement segregating the items shown there in the statement, according to canal systems.

Q. 255. But taking the books alone, can you give the amount that Extension A, for instance, of the main canal, cost?

Mr. LANGHORNE: We make the same objection.
The MASTER: The same ruling.
Mr. LANGHORNE: Note an exception.

A. Yes, I can state the amount of construction of Extension A.

By Mr. TREADWELL:

Q. 256. How much was that?

Mr. LANGHORNE: We make the same objection.
The MASTER: The same ruling.
Mr. LANGHORNE: Note an exception.

A. $122,777.58.

By Mr. TREADWELL:

Q. 257. And Extension B?
A. $15,924.56.

Mr. LANGHORNE: We wish to note the same objection to all this class of testimony in which the witness is giving his testimony in regard to the cost of construction appearing on the books. And I will assume, that unless the question so indicates, that all his testimony is of that character, that all the testimony is subject to my objection and exception, that all statements and testimony as to what the books show in regard to the cost of construction is incompetent and irrelevant; and that the same ruling and exception is noted.

The WITNESS: It will be understood that these figures that I have given represented the original cost of construction. In some cases portions of Extension A, for example, were enlarged
588 afterwards, and those items of enlargement appear here in subsequent items of the account, but do not refer particularly to the place of enlargement, so that that might be somewhat misleading as to the actual cost of that particular canal as it now stands.

(By Mr. TREADWELL:)

Q. 258. And the Dos Palos system, how far can you segregate the cost of that? In the first place, do you remember the amount that you had expended on that at the time you testified in the former case against Stanislaus county?

A. The items here in the statement bring it to a later date than I examined it, so I don't know that it will correspond with the statement that was made at the time.

Q. 259. What is the total that you have?

A. The total that I have here, which includes extensions up to 1900, is $26,819.07.

Q. 260. Have you got a statement as to what parallel No. 1 cost?

A. Yes, it cost $9,852.57, originally. It was afterwards enlarged and that enlargement was quite expensive.

Q. 261. The original cost of parallel No. 2?

A. $26,053.34.

Q. 262. And parallel No. 3?

A. $11,220.96.

Q. 263. Do you remember the amount of the expense of the outside canal, or the cost of construction of the outside canal which you testified to in the former case, in 1898, up to that time?

A. I don't think there was any testimony as to the cost at that time. $86,315.56 was the cost of the construction of the outside canal up to Los Banos Creek.

Q. 264. And you have already given as to when that was?

A. That was for the construction of the canal up to Los Banos Creek in 1896, '7 and '8.

Q. 265. Now then, what is your total cost of the outside canal, the cost of construction?

A. Up to what date?

Q. 266. Up to the end of your account, 1907.

A. The total cost up to that time was $149,960.77.

589 Q. Are there any other separate canals that the cost of construction is shown, that I have not mentioned?

A. None of any moment. There were some ditches in the neighborhood of Orestimba creek and Crow creek, but you have mentioned all the main systems. The ditches at Orestimba creek were small, connecting the canal, or some delivery ditches which had been cut off on account of changes of our dam in Orestimba creek.

Q. 268. Now as I understand you, these costs which you have given do not include enlargements that have been made since the original construction?

A. No.

Q. 270. Have you a statement of the cost of maintenance of the canal during the various years during which it has been doing business?

A. Yes; not exactly that either, because for many years they did not keep a separate Maintenance account. It went into one account, as I have before described.

Q. 271. But back of 1887 you can give the cost of maintenance as shown by the books of the company, can you?

A. Yes sir.

Q. 272. What amount do the books of the company show was charged to Maintenance during the years from 1887 to date?

A. For the year 1887, $18,568.08; 1888, $20,444.78; 1889, $23,099.18; 1890, $23,083.07; 1891, $20,599.73; 1892, $17,963.31; 1893, $19,337.32; 1894, $33,689.95; 1895, $21,631.08; 1896, $23,319.85; 1897, $19,940.87; 1898, $29,526.51; 1899, $30,526.67; 1900, $37,335.98; 1901, $30,933.13; 1902, $27,504.53; 1903, $51,359.63; 1904, $79,229.05; 1905, $87,533.98; 1906, $87,669.75; 1907, $73,891.77.

Q. 273. During that period, Mr. Merritt, you have already testified, I believe that the books were correctly kept?

A. Yes.

Q. 274. Were those amounts, or were they not, actually paid?

A. They were.

590 Q. 275. Have you always obtained work, labor and everything connected with the company as cheaply as you reasonably could?

A. Yes.

Q. 276. Taking the general maintenance of the company, what have you paid salaries to?

A. The president and secretary, from the annually elected officers. They were paid salaries. The superintendent was an appointed officer, was always paid a salary; and there were book-keepers.

Q. 277. I understand that; but the general superintendence of the company is under charge of whom?

A. The president.

Q. 278. And what other officers?

A. The vice-president.

Q. 279. And the next officer is the secretary?

A. Yes sir.

Q. 280. Now who is president of the Company?

A. Henry Miller.

Q. 281. And who is the vice-president of the company?

A. J. Leroy Nickel.

Q. 282. And you are the secretary, as you have testified?

A. Yes.

Q. 283. Now what salary does Mr. Henry Miller get, as president of this complainant?

A. $1200 a year.

Q. 284. How long has he been getting that salary?

A. I don't remember when he was first elected.

Q. 285. How many years has he been president?

A. Probably fifteen or more. I don't know the date, but I can look it up.

Q. 286. How much salary has he been getting during that time?

A. The same salary all the time. That is the salary that was paid to Mr. Sedgeley, who was president of the company when I

first became secretary, in 1883; afterwards to Mr. Center, and it passed on to Mr. Miller when he succeeded Mr. Center.

Q. 287. How much salary does Mr. Miller get as president of Miller & Lux?

A. $20,000 I believe; no, I am not sure whether it is 20 or 24.

591 Q. 288. I think it is 25.

A. 25. I don't happen to keep those accounts and so I don't keep posted on what he is getting.

Q. 289. How much salary does Mr. Nickel get as Vice-president of the company?

A. He get- no salary.

Q. 290. Is Mr. Nickel vice-president of Miller & Lux?

A. Yes.

Q. 291. What salary does he get as vice-president of Miller & Lux, if you remember, at the present time?

A. I know there was some change there awhile ago, and I don't know just what it was.

Q. 292. Will you refresh your memory on that and give the amount of that?

A. Yes.

Q. 293. Does Mr. Nickel perform the same relative duties in the canal company as he does in Miller & Lux?

A. He does.

Q. 294. I will ask you, what is the work he does for the canal company in a general way?

A. All of the litigations carried on are under his direct supervision; he has an active hand in the shaping of the policy of the company, and in a general way keeps an oversight of the entire business; that is to say, he informs himself from time to time as to matters of detail in the accounting department and all matters of general administration he is concerned with, and has a hand in shaping.

Q. 295. What is the general division of duties in Miller & Lux between Mr. Nickel and Mr. Miller?

A. Very much the same. Mr. Miller attends to the outside administration. That is to say, he goes from ranch to ranch and gives orders to his superintendents and others as to the conduct of the business; and Mr. Nickel attends to the administration end that emanates from the office.

Q. 296. And between those two companies what part of his time does he give to Miller & Lux and to the canal company?

592 A. It would be difficult to say.

Q. 297. I don't mean to separate it, but he gives all of his time to those two companies?

A. Yes; that is, including in Miller & Lux the allied corporations which are really identical.

Q. 298. And what is his familiarity with, how detailed is it, with the affairs of the canal company?

A. He keeps himself well informed in all matters of policy as to the details, to enable him to shape the policy.

Q. 299. And about what proportion of his time do you say that he gives the canal company?

A. I could hardly venture to get at that. I don't know.

Q. 300. Well, is there ever a day, hardly, when he is in his office that he is not working on canal matters?

A. Probably not, to some extent.

Q. 301. Now what is the salary of the secretary?

A. $1800 a year.

Q. 302. And you divide your time entirely between what companies?

A. The canal company and Miller & Lux and its allied corporations.

Q. 303. And is that the highest salary you have ever got from the canal company?

A. No. When I first entered the employ of the company the salary was $200 a month, but shortly after that the directors thought that Miller & Lux ought to bear a larger proportion of my salary, and it was adjusted.

Q. 303. So that all you get from the canal company is $1800?

A. That is all that I have had for a great many years.

Q. 304. Now the office rental of the canal company in the main office in San Francisco, how much does that amount to?

A. Last year, that is for the year ending November 25, 1907, it was $800.

Q. 305. A year?

A. Yes. I don't know just what the rent arrangement will
593 be for the present year, because last year part of the time was in the present office and part of the time in the old office. The present rent of course is much higher than it was in the old office.

Q. 306. Now that includes the office of the president and the vice-president and the secretary and the book-keepers and assistants?

A. Yes; and janitors and lighting and heating, and it includes a great deal of stenography.

Q. 307. You share the same offices with Miller & Lux?

A. Yes.

Q. 308. And the canal company has the use, then, of all those offices, have they?

A. Yes.

Q. 309. And take the stenography, is there any extra charge made for that?

A. No.

Q. 310. You just use Mr. Miller's stenographers?

A. Yes.

Q. 311. For all this litigation work at any time, without any extra charge whatever?

A. Yes, except in some rare cases when the attorneys have had work done outside, which was exclusively for this purpose, then of course we paid that. But for ordinary office stenography there has been no charge made at all.

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Q. 312. Are there any other things included that are not charged for?

A. Nothing else occurs to me now.

Q. 313. Do you remember how much the engineer of the company gets?

A. I think it is $125 a month; but I am not certain as to that without refreshing my memory.

Q. 314. You will do so please, and put that in?

A. Yes.

Q. 315. What does the engineer have charge of, in general?

A. Any construction work of any magnitude, and a great deal of statistical work.

Q. 316. The acreages irrigated?

A. The acreages irrigated and the duty of water and a great many things pertaining to the new measuring system that is now in vogue.

594 Q. 317. And the loss of water?

A. And the loss of water by evaporation and seepage in new construction of earthworks, is under his charge.

Q. 318. Surveying?

A. The surveying and mapping of the irrigated lands.

Q. 319. Have you always found it necessary to have a first-class engineer?

A. We have not always had one employed constantly, but have lately been obliged to have a man employed for a good part of his time. We do not take all of the time of the engineer. We divide the expense with Miller & Lux.

Q. 320. I mean as to the character of the man, the qualifications of him.

A. You need a first class engineer, yes.

Q. 321. If you would have to employ such an engineer as you would consider necessary for yourself, solely, if you should have all his time, could you get him for $125 a month?

A. No.

Q. 322. But he also acts as engineer for Miller & Lux?

A. Yes.

Q. 323. Have you got here where you can get it handy, Mr. Merritt, the difference between the amount of taxes you pay now and the amount you paid say to about 1896?

A. I think I have not those figures here.

Q. 324. Now if this canal company, Mr. Merritt, was conducted entirely independently of Miller & Lux, and you were to get a president and a vice-president and a secretary and an engineer and a competent office force for the kind of offices that you would need, to run it the way it should be run, and such offices as you would need, would it be possible to do so at the figures you have testified to?

A. By no means.

Q. 325. You don't know of any man of Mr. Miller's ability that if willing to become president of a company that does a $100,000 business for $1200 a year do you?

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A. No. Of course that seems very absurd.

595 Q. 326. And of course Mr. Nickel's working for nothing stands in the same light, does it?

A. Yes.

Q. 327. Could you get a secretary that would do the work that you do for $1800 a year?

A. I doubt it.

Q. 328. Have you got your balance sheet made up for a Profit and Loss account for the year 1907-8?

A. I have made a statement of the Profit & Loss account for the year ending June 30, 1908, which is not our usual fiscal year. Our regular fiscal year ends on November 25, annually.

Q. 329. But you fixed it that way?

A. I made this up so as to show as accurately as possible the profit and loss for the irrigation year. It has been an anomalous condition of things; but as a matter of fact we have a fiscal year ending on November 25 and an irrigation year ending on June 30.

Q. 330. As I understand it then, your water rates all run for an irrigation year which is from July 1 to next June 30?

A. Yes.

Q. 331. And the rates fixed by the board of supervisors are fixed the same way?

A. Yes.

Q. 332. And you have always kept your accounts, however, relative to a fiscal year which you carried down to November 25?

A. To November 25, yes.

Q. 333. Of each year. But you have got up a statement that shows as accurately as you are able to do so, the profit and loss figuring it from the 1st of July 1907 to the 30th of June 1908?

A. Yes.

Q. 334. Will you produce that statement?

(The witness produces.)

Mr. TREADWELL: I offer this in evidence and ask that it be marked "Complainant's Exhibit No. 16."

Mr. LANGHORNE: We object to it as incompetent, irrelevant and immaterial.

596 The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

(Marked "Complainant's Exhibit No. 16.")

(By Mr. TREADWELL:)

Q. 335. Is that statement correct, Mr. Merritt, of the profit and loss of the company?

A. As nearly so as I can make it.

Q. 336. When was your last inventory taken, Mr. Merritt?

A. On November 25, 1907—or November 15, rather.

Q. 337. By an inventory, what do you mean? What kind of an inventory do you keep?

A. We make up annually an itemized inventory of the personal property in the hands of the superintendent, consisting of stores

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and provisions and household furniture and implements and vehicles and horses, &c.

Q. 338. It does not contain anything except personal property of the company?

A. That is all.

Q. 339. It does not purport to be an inventory of all the property owned by the company?

A. No.

Q. 340. And that is gotten up showing the amount of the property and the condition of it at the time it is made?

A. Yes.

Q. 341. How often do you examine the property on the ground? How often do the company's officers go to the counties where the canal is located?

A. At least once a year; sometimes oftener.

Q. 342. Do you make a general examination?

A. Yes. I don't always go over all the personal property to inspect it. Mr. Miller does that oftener than anyone else. He keeps that under his general supervision.

Q. 343. Have you any way of knowing whether this inventory is correct as to the properties on hand shown by it?

A. No. I have to depend upon the superintendent and his assistants. I merely check it over and occassionally when I notice that items contained in the previous inventory are not contained
597 in the new inventory I call for a statement of facts in that case, and an explanation.

Q. 344. Some of the property you might know of and some of it you might not?

A. Yes.

— 345. Is this inventory entered in the books in detail or not?

A. No, just the total for each subdivision. It is used for closing the books annually, as to the property accounts. That is to say, the personal property accounts.

Q. 346. In getting up your profit and loss statement, you get up that profit and loss statement so as to show what the actual expense has been to the company for the year for those particular items?

A. Yes.

Mr. TREADWELL: I offer in evidence that inventory on the theory that it is an entry made practically the same as a book. It goes into making up the accounts. They are reports made in the ordinary course of business. I think it will be admissible on that ground.

Mr. LANGHORNE: We object, first that it is incompetent; second, that it is irrelevant.

Mr. TREADWELL: I will ask the witness one or two other questions in regard to it before I introduce it.

Q. 347. Where do you get these inventories from, Mr. Merritt?

A. From the superintendent's office.

Q. 348. He simply sends them to you every year?

A. Every year.

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Mr. TREADWELL: We will offer it for the purpose of identification, at any rate.

(Marked: "Complainant's Exhibit No. 17 for identification.")

Further hearing adjourned to Thursday, October 22, 1908, at 10 a. m.

598 THURSDAY, *October* 22, 1908—10 a. m.

Counsel appearing:
For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Mr. LANGHORNE: I would like to have it noted: The complainant offered in evidence certain contracts as a part of his case. Defendants' counsel asks that the same be copied into the record; whereupon the Master states that if such were done, such copying would be at the expense of the defendants in the first instance; to which ruling of the Master in that regard, counsel for defendants excepts.

The MASTER: Such Exhibits are numbered 6, 9, 11 and 12. Will you want them copied into the record?

Mr. LANGHORNE: Yes sir.

Examination-in-chief of CHARLES Z. MERRITT resumed.

By Mr. TREADWELL:

Q. 349. Mr. Merritt, in your Profit and Loss Account for 1908, you state certain items *items* of legal expenses. I will ask you if during the time that you have been secretary of this complainant and its predecessor in interest you have had litigation respecting diversions of water from the San Joaquin river and its tributaries?

A. We have.

Q. 350. Do you remember now some of the earliest instances of that litigation?

A. The earliest case that I recall was against the Fresno Flume & Irrigation Co. for diverting waters on the upper San Joaquin.

599 Q. 351. That was a suit to enjoin them from diverting waters of one of the upper tributaries of the San Joaquin, was it?

A. Yes.

Q. 352. And is that suit still pending?

A. I think it is. It was a long time ago that it was brought. My impression is that it is still pending.

Q. 353. And what is the next early one that you remember?

A. There was one against the Madera Canal & Irrigation Co. of much the same nature.

Q. 354. They were diverting water, were they, from the upper San Joaquin?

A. Yes.

Q. 355. And conveying it through into the Fresno river, were they, and then into their canals?

A. I am not sure about that part of it. They were diverting it into flumes and fluming their lumber down into Madera, and the water was thus lost to us because it did not return to the San Joaquin river.

Q. 356. It was taken away from the watershed of the San Joaquin river?

A. Yes.

Q. 357. Do you remember whether or not that litigation was terminated?

A. I think it was but I don't remember the circumstances definitely.

Q. 358. What is the next case of attempting diversion, that you remember, from the river, that resulted in litigation?

A. Another one and probably the next one, was the case of the Enterprise, our case against the Enterprise Company to enjoin them from diverting water to lands, the lands of J. G. James.

Q. 359. That was the Enterprise Canal Co.?

A. That was the Enterprise Canal Co., I think was the name of the company. We always knew it as the suit of this company against the Enterprise Company.

Q. 360. And what in a general way were they attempting to do?

600 A. To divert water above us on the San Joaquin river and to use it for the irrigation of lands on the west side of the river some distance above the headworks of this company.

Q. 361. And suit was brought to enjoin them from doing that, was it?

A. Yes.

Q. 362. Do you know what became of the first suit that was brought for that purpose?

A. It was decided, as I recollect, partly in favor o fthis company and partly not in its favor, and an appeal was taken and the suit is now pending, as I recollect it, on appeal.

Q 363. Well now, at any rate a judgment was entered?

A. A judgment was entered, yes.

Q. 364. Was that the case in which the judge of the Superior Court held that our dam in the river was a nuisance and not maintainable, do you remember?

A. Yes, that is my recollection.

Q. 365. And did we prosecute an appeal from that part of the judgment?

A. Yes.

Q. 366. And the judgment in that particular was reversed, was it?

A. Yes.

Q. 367. Now the rest of the judgment was in our favor?

A. Yes.

Q. 368. Do you remember whether a new trial was subsequently granted in that case or not?

A Yes, by another judge.

Q. 369. There was another judge came in in the meantime, and granted a new trial?

A. Yes.

Q. 370. And nothing has been done further in the case since that time?

A. Nothing.

Q. 371. Now pending that case, was there another case brought for the purpose of accomplishing the same result, that is, enjoining James and the Enterprise Company from making those diversions?

A. There was.

601 Q. 372. And in whose favor was that decided? In favor of James or against him, in the Enterprise Canal Co. case?

A. As my recollection is, it was against him.

Q. 373. And is that case still pending on appeal?

A. Yes.

Q. 374. And as I understand it then, pending the appeal in this latter case, which will decide the whole matter, nothing of importance has been done in the prior case?

A. That is correct.

Q. 375. It has been allowed to lie dormant in the meantime?

A. Yes.

Q. 376. What is the next person that you remember who attempted to take water from the river, and which resulted in litigation?

A. Mr. Borland.

Q. 377. Where did the Borlands attempt to take water? Where was their outlet?

A. It was near the Fresno Slough, above the works of this company, and it was found that he was pumping water for the irrigation of his land which this company claimed we had no right to, and the suit was brought to enjoin him from so pumping the water.

Q. 378. Do you remember whether that suit resulted in favor of the Borlands or against them?

A. In favor of the Borlands.

Q. 379. And how did we get rid of the effect of that judgment, if we did get rid of it?

A. By purchase of the lands concerned, by Mr. Miller or his corporations.

Q. 380. By Mr. Miller?

A. By Mr. Miler.

(By Mr. LANGHORNE:)

Q. 381. Did Mr. Miller purchase those lands, the Borland lands?

A. His corporation, a corporation controlled by Mr. Miller, purchased the lands.

(By Mr. TREADWELL:)

Q. 382. What was the name of that company that purchased the lands?

A. The Borland lands?

Q. 383. Yes.

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A. The Borland Land Co.

602 Q. 384. The Borland Land Co. was simply used by Mr. Miller for convenience?

A. For convenience, yes.

Q. 385. And after Mr. Miller acquired that land, did he adjust the matter with the Canal Company as to the right of that land to be irrigated?

A. Yes.

(By Mr. LANGHORNE:)

Q. 386. Before you answer that I would like to know whether that was a written contract?

A. It was.

Mr. LANGHORNE: We object to it then unless the contract is produced.

Mr. TREADWELL: We will agree to produce the contract.

Q. 386. The contract you referred to was a written one, was it?

A. It was.

Q. 388. And how long has the adjustment been pending as to that matter since Mr. Miller bought the land?

A. I should say about a year but I can't be exact as to the date. Those negotiations began during my absence from the office on account of ill health, and I found when I returned a year ago that they were then pending, so I should say it was about a year.

Q. 390. And who else beside the canal company, the Borland Canal Land Co., was a party to that agreement and to those negotiations?

A. The California Pastoral & Agricultural Co. and Miller & Lux, Incorporated.

Q. 391. And how long ago was that contract finally executed by Miller and Lux and the canal company and the Borland Land Co.? When was it executed?

A. On the 20th of this month.

Mr. TREADWELL: Complainant offers in evidence here in connection with the testimony of this witness, the contract referred to, being the contract dated the 20th day of October, 1908, between the California Pastoral & Agricultural Co., Limited, the San Joaquin and Kings River Canal & Irrigation Co., Incorporated, Miller & Lux, Incorporated, and the Borland Land Co., Incorporated.

603 Mr. LANGHORNE: Defendants object to the introduction of the contract on the ground that it is incompetent, and second on the ground that it is irrelevant.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

The MASTER: The contract not being at hand now, when produced it will be marked "Complainant's Exhibit No. 18."

(By Mr. TREADWELL:)

A. 393. The contract that I have just referred to, Mr. Merritt, was that contract submitted to the minority directors of the canal company and also of Miller & Lux?

A. It was.

Q. 393. And was it or was it not approved by them?

A. It was approved by them.

Q. 394. What other suits has the canal company brought against persons claiming the right to divert water from the river, besides the ones that you have mentioned?

A. They have brought suit against the Stevenson Canal Co. They caused suits to be brought against the Eastside Canal Co. and Stevenson. The Eastside Canal Co., I think the name is; the Eastside Canal Co. properties; by the Turner estate. And they also have incurred legal expense in connection with the use of water by others higher up on the river, in the matter known as the Eastwood agreement.

Q. 395. Let us take one of these at a time. Now you referred to certain suits against the Stevenson people and the Eastside Canal & Irrigation Co. Are those the same people that brought suit to enjoin the complainant and its predecessor from taking water from the river?

A. They are.

Q. 396. And the suits which they brought against the complainant and its predecessor are still pending and undetermined?

A. Yes.

Q. 397. Then as I understand it, the canal company
604 brought or caused suits to be brought against the plaintiffs in those suits for the purpose of limiting the amount of water that they could take?

A. Precisely.

Q. 398. And those suits are still pending and undetermined?

A. They are.

Q. 399. And you also referred to certain matters connected with the Eastwood and North Fork agreements. What did those matters refer to?

A. To a proposition in which this Mr. Eastwood and others were concerned, to use water on the North Fork for the development of power. The proposition was to impound water that would otherwise have flowed naturally into the North Fork, and thence down to the company's headworks, and to release it from time to time as they might require in their operations in the production of power. As that might result disadvantageously to the company by withholding water when they wanted it and giving it to them when they didn't want it, the company threatened to bring an action to prevent their diverting the water at all; and negotiations followed with a view of giving this company the right to dictate the times when the water which was impounded should be returned to the river in order that it might have it at seasons of the year when it was needed for irrigation. And those negotiations have covered quite a long period and have involved considerable expense, but were necessary for the preservation of the rights of the company in the interest of its irrigators.

Q. 400. And did those negotiations finally result in contracts

covering the matter between the canal company and riparian owners on the one hand and the power companies on the other hand?

A. Yes.

Mr. TREADWELL: We offer in evidence a contract between Miller & Lux and others, and Eastwood and others, and ask that it be marked "Complainant's Exhibit No. 19."

605 Mr. LANGHORNE: Defendants object to the introduction on the ground that it is incompetent; second, on the ground that it is irrelevant.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

(Marked Complainant's Exhibit No. 19.)

(By Mr. TREADWELL:)

Q. 401. Mr. Merritt, the other day you were computing the amount which Miller & Lux had saved by virtue of the contract which it had entered into with the canal company as to the rate which it should be charged for water over what it would have paid if it had paid the regular rates. Did you include in that estimate the advantage, if there was any, which Miller & Lux acquired by virtue of being entitled to stock water without charge? Did you include that in your computation?

A. I did not.

Q. 402. Do you yourself know what the amount of stock that Miller & Lux waters, amounts to?

A. I do not.

Q. 403. You also in your testimony gave the amount which the books showed certain of the canals cost since you have been secretary of the company; that is, the cost of the construction of certain of the canals. I will ask you what was included in that estimate. Whether or not it included general superintendence and matters of that kind?

A. No it did not. The accounts represented the cost of material and labor, but did not include superintendent's salary, a percentage of the president's salary, or any percentage of general administration expense, either clerical or otherwise.

Q. 404. So as I understand you, since you have been secretary of the company, the matter of the superintendent's salary and the president's salary and the secretary's salary and the maintenance of general offices and things of that kind have never been

606 charged, or any part of them, to the construction account?

A. No.

Q. 405. Even while construction was going on?

A. No. They have been classed as Maintenance.

Q. 406. So that the cost of those canals, as you have given them, does not include matters of general superintendence, &c., which I have mentioned?

A. They do not.

Q. 407. Do the same officers—that is, the president, the secretary and the superintendent, attend to matters of construction and have they during the time you have been connected with the company?

A. Yes, they all have to give time and attention to those matters.

Q. 408. What were the rates charged for water by the predecessor of the complainant prior to the attempted fixing of rates by the supervisors of Stanislaus County in 1896?

Mr. LANGHORNE: We object to that question on the ground that it is incompetent, and on the ground that it is immaterial.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

A. The rates which were in force immediately prior to the adoption of the rates by the board of supervisors of Stanislaus county in 1896, were as follows: For irrigating alfalfa, $2.50 per acre per annum; for irrigating cereals, $2.00 per acre per annum; for irrigating trees and vines, $2.50 per acre per annum; for irrigating gardens, $5 per acre per annum; for water for sheep, hogs or goats, $10 per thousand per month, and at the same rate for a less number; for water for horses, cattle, mules and other live stock, $40 per thousand per month and at the same rate per day for a less number.

Q. 409. Can you give the amount as shown by the books of the company as the gross receipts for water since the formation
607 of the canal company, the predecessor in interest of the complainant, and also the gross receipts of the complainant?

A. I can.

Q. 410. Will you give it year by year.

A. I would like to say again, that the record which I am now relying upon begins with the statement of the receipts to December 31, 1872. At some time or other during the course of the subsequent years, the precise date in the year at which the irrigation season closed has been charged to November 15. I can't give the date when that change occurs, but it is not material.

(By the MASTER:)

Q. —. Instead of July 1?

A. December 31 is the date to which the receipts ran in the first place. Later the custom obtained of issuing the receipts up to November 25; that is, closing the books on November 25 instead of November 15, for that was the superintendent's date of closing his books. But the books in the office closed November 15, but the receipts of the office were for the irrigation year ending June 30 prior to the date of closing the books. But taking simply the years now, without reference to the date in the year to which the account ran, the books show as follows:

In 1872, $746; in 1873, $6,037.15; in 1874, $8269.98; in 1875, $20621.82; in 1876, $50,740.82; in 1877, $31,700.15; in 1878, $26,135.14; in 1879, on account of a payment to Miller & Lux in the settlement of the suit between Miller & Lux and the canal company there was a debit to the Water Account of $4,421.54; in the year 1880, the receipts were $45,705.62; in 1881, $47,732.68; in 1882, $66,208.31; in 1883, $64,661.50; in 1884, $38,361.60; in 1885, $47,237.45; in 1886, $25,286.39; in 1887, $51,901.45; in 1888, $55,143.05; in 1889, $51,352.75; in 1890, $20,748.85; in 1891, $48,980.40; in 1892, $60,881.72; in 1893, $62,452.43; in
608 1894, $75,666.80; in 1895, $65,749.76; in 1896, $67,659.34; in 1897, $64,145.12; in 1898, $78,466.07; in 1899, $87,-

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177.15; in 1900, $81,952.12; in 1901, $70,442.57; in 1902, $81,-322.29; in 1903, $87,277.94; in 1904, $130,212.27; in 1905, $98,-072.65; in 1906, $90,991.80; in 1907, $78,146.73; in 1908, $107,401.82. The amount stated as revenues for 1904 should be explained. It was in that year that the undercharge of previous years to Miller & Lux was discovered by reason of misconstruction of the contracts and the settlement with them on that account involved a credit to the water account of 66,000 and odd dollars, so that the actual revenue for that year, for the irrigation of that year I should say, was about $64,000. And it should further be explained that although these are given as gross receipts, it would be more accurate to say "gross revenues," because we stated the amount that was charged to customers and credited to Water Account regardless of whether the amounts were collected or not. Some of these accounts of course proved to be bad accounts and were not collected, so that the actual receipts would not tally exactly with the statement that is submitted.

Q. 412. From the year 1897 to and including the year 1908 or the year 1907, have you also kept an account showing the number of acres of land which have been irrigated by the company?

A. I have a statement of the acreages irrigated during that period.

Q. 414. And have you made a tabulation of that irrigation?

A. I have.

Q. 414. And have you also segregated the amount irrigated under the main canal in Fresno county, the main canal in Merced county and the main canal in Stanislaus county, the Dos Palos canal in Fresno county, the Dos Palos canal in Merced county, the
609 outside canal in Fresno county and the outside canal in Merced county, and the amount irrigated from each of these systems in each of those years?

A. I have. (Producing.)

Mr. TREADWELL: The witness here produces a "statement of the number of acres irrigated from canals of S. J. & K. R. C. & I. Co. from 1897 to 1908 inclusive."

Q. 415. I will ask you Mr. Merritt, if that is the computation that you refer to?

A. It is.

Q. 416. Is it a correct summary of the irrigation as shown by the books of the company?

A. It is.

Mr. TREADWELL: We offer that in evidence in connection with the testimony of the witness and ask that it be marked "Complainant's Exhibit No. 20."

Mr. LANGHORNE: We object on the ground that the same is incompetent, irrelevant and immaterial.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

(Marked "Complainant's Exhibit No. 20.")

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(By Mr. TREADWELL:)

Q. 417. Since you have been familiar with the affairs of the canal company, has it supplied water to every one that required it and demanded it?

A. Substantially every one.

Q. 418. Taking during the entire period, have there been any times when the company did not have sufficient water to supply during the year all the land that demanded irrigation?

A. There have been times when there was not sufficient water in the river to supply the demands just as they arose, and there have been times when on account of cleaning the canal we were unable to supply people below the point where the canal was being cleaned. But other than that we have been able to supply the demands.

610 Q. 419. Well, of course, the latter would be simply a temporary failure for a limited time?

A. Yes.

Q. 420. It would not apply to the entire season, the entire irrigating season?

A. Oh no.

Q. 421. And outside of shortage of water in the river your supply of the canals then has been adequate for the demands of all the people who have demanded water through those canals?

A. Yes.

Q. 421. And during the last two years, or the last three years, has there been any difference in that regard?

A. No.

Q. 422. You have simply taken from the river all the water that you needed?

A. Yes.

Q. 423. Are you familiar Mr. Merritt, with the width of the strip of land along each of these canals that the canal company has possession of as its right of way?

A. I am.

Q. 424. Is that the same width n all the canals?

A. No.

Q. 425. Can you give the width and will you give it on each part of the canals?

A. On China Slough from the China Slough headgate to the intersection of the main canal, leading from the main headgate the right of way is 300 feet wide. From the head of the parallel canal to Los Banos creek, the width is 250 feet. The width on the right of way of all the rest of the system, on the main canal and the outside canal, is 200 feet, except that the outlet canals from the outside to the main canals are 100 feet wide, the right of way is 100 feet wide. In the Dos Palos system the widths vary. The main Dos Palos canal has a right of way of 156 feet wide; branch one 125 feet; Branch two 114 feet: Branch three, 116 feet; Branch four, 100 feet.

Q. 426. Do you know whether or not the canal company has claimed to own the fee of some of the right of way, or whether it has simply claimed a right of way over the land?

611 A. In most cases it claims the fee. Ever since I have been connected with the company it has made a point of acquiring a fee of the land whenever it made any extension of its canals. There were two or three cases where owners refused to grant the fee and the company constructed their canals and obtained in some cases a prescriptive title and in other cases compromised on a right of way, but these are exceptional. The title of the company prior to the time that I became secretary is a matter upon which I am not well posted because I know that in a great many cases—I think in all cases of Extension A and Extension B—they acquired the fee, but on the main canal up to Los Banos Creek I know that they did not acquire the fee in all cases, and just how the matter stands I am unable to say for I never went into it carefully and the records have been partly lost.

Q. 427. You had in your possession before the fire the deeds to those rights of way?

A. Yes.

Q. 428. And as I understand you, in the majority of cases, since you have had personal charge of it, there were deeds which conveyed the fee to the land?

A. Yes, and I know from having handled the deeds.

Mr. LANGHORNE: We object to all of this testimony as to the contents of the deeds, whether they conveyed the fee, and move that it be stricken out on the ground that it is incompetent and immaterial, and that the deeds or contracts which the complainant company has as to its rights of way over the lands is the best evidence.

Mr. TREADWELL: Before your Honor rules on that objection I will ask to examine the witness further.

Q. 429. The deeds that you had in your possession respecting those rights of way, what has become of them, Mr. Merritt?

A. A considerable number of them were lost in the fire.
612 They were not all lost. I am unable at this time to say how many were preserved for I have not searched out those papers since the fire.

(By Mr. LANGHORNE:)

Q. 430. The original deeds were lost, were they?

A. Yes.

Q. 431. Were they not recorded in the various counties?

A. Yes, all that have been since my time were, and I suppose that they were before that. I never have examined the records to see.

Q. 432. You don't know of any deed that was not recorded, do you?

A. No.

Q. 433. Or contract relating to rights of way?

A. No.

Mr. LANGHORNE: Then I submit that assuming that the regular deeds were lost, the next best evidence is a certified copy of the record.

The MASTER: I sustain the objection as the record now stands.

Mr. LANGHORNE: You grant my motion to strike out?

The MASTER: I grant your motion to strike out the testimony in connection with those deeds for the reason that it is not the best evidence. The witness will proceed to answer the question and it goes of record the same as though no objection had been made.

Mr. LANGHORNE: All the questions asked of the witness on that point and answered are subject to my same objection, on the same ground.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Merritt, you testified on direct examination in regard to what you claimed the books of the predecessor of the complainant canal company showed had been paid in by the stockholders for their stock. I will ask you whether you know of your own knowledge or in any manner other than from the books
613 that any subscriptions for such stock were paid into the treasury of the company?

A. I only know from an examination of the books. I have no personal knowledge of the matter whatever.

X Q. 2. Is that true also of your testimony in regard to what was paid by the complainant's predecessor to the first company that was formed, or to John Bensley, for its or his interest in the properties?

A. The same thing is true.

X Q. 3. So that you have no personal knowledge or receipts in your possession showing that any of the moneys which you testified were paid over by the stockholders or by the complainant's predecessor upon any of the canal properties were actually paid?

A. I am not prepared to say what receipts are in my possession touching those matters. I have not recently examined them, that portion of the company's files of papers, and so I am not prepared to say what we have or what we have not. I made the statement from the books. It may be that we have receipts on file which would bear on that question, but I am not certain.

X Q. 4. At the present time you know of no such receipts?

A. No.

X Q. 5. Now you testified as to an arrangement by the company's predecessor with Mr. John Bensley releasing him from a certain proportion of his subscription for stock in consideration of his turning over to the company all his interests in certain water rights and properties of the old company. Do you know of that transaction of your own knowledge?

A. I do not.

X Q. 6. You say that that appears from the books of the company?

A. Yes.

X Q. 7. From what book?

A. I can't tell you now what book it was found in. At the time that the statement was made up I had been examining all the old

books and records that I could bearing upon the subject.
614 Precisely what that came from, what book it came from, I cannot at this time state.

X Q. 8. What was the entry in that book about that? Do you remember that?

A. I do not. I don't remember how it read. I remember that I ascertained that the record indicated that fact.

X Q. 9. But you have not got the book itself at this time?

A. Since I don't know what book it is in I am not prepared to say whether I have the book.

X Q. 10. You have testified that certain of the books of account of complainant's predecessor were destroyed by the fire?

A. Yes.

X Q. 11. Well did this entry in regard to the arrangement with John Bensley appear in any of those books that were destroyed?

A. I think it does. I am not certain without having examined the books with reference to that entry,—the books that are preserved. The testimony that I gave was based upon my personal testimony in the rate case and did not refer to an examination of the books since the fire.

X Q. 12. Now you have also testified on direct examination in regard to the cost of construction of this canal by the complainant's predecessor and also by the complainant. Do you know of your own knowledge of the expenditures of those moneys for cost of construction?

A. I don't know of my own knowledge what the cost of construction was prior to the time that I became secretary of the company.

X Q. 13. That was in 1883?

A. Yes sir.

X Q. 14. What month?

A. July 1.

X Q. 15. And up to 1887, was it, did you say, that the cost of maintenance and of construction was so intermingled that they could not be well segregated?

A. I think that was up to 1886.

X Q. 16. 1886?

A. Yes.

X Q. 17. Now since you became secretary in 1883, do
615 you know of your own knowledge that the moneys charged to cost of construction were actually paid to the parties by the company's predecessor or by the complainant company?

A. In many cases I had personal knowledge of payments, but in most cases I relied upon the reports of the superintendent. I paid a great many drafts drawn by the superintendent in favor of various persons, and the reports of the superintendent showed that those drafts were in payment of certain expenses and they were so charged on the books of the company.

X Q. 18. All that you know about that, Mr. Merritt, is that you kept the accounts in the company's office in San Francisco and relied upon the correctness of the records of others, other agents and officers of the company, as to the correct amounts to be paid?

A. As to such transactions as took place at a distance which I could not personally observe.

X Q. 19. Yes. Well, nearly all of the cost of construction took place at a distance from San Francisco, did it not?

A. Yes.

X Q. 20. You were not personally present on the canal at all times of the construction, were you?

A. No.

X Q. 21. And you did not personally pay the money to the contractors, did you?

A. No.

X Q. 22. You left that to others. And you did not pay the laborers?

A. No.

X Q. 23. Have you the minute book of the complainant's predecessor?

A. Yes.

X Q. 24. You have got that with you?

A. Yes.

X Q. 25. You have got it here now?

A. No.

X Q. 26. I ask you, Mr. Merritt, if your minutes of the predecessor of the complainant contained the following entry:

616 "Mr. Center, Chairman of the Committee, appointed at last meeting, said the committee had made a careful examination into the case of The Company vs. Miller & Lux, and presented their written report, which he read. Mr. Potter moved that the report be received and placed on file. Motion seconded and carried.

"Mr. Rosenburg then offered the following resolution and moved its adoption:

"Whereas, there is a suit pending in the district court of the nineteenth judicial district of the State of California, entitled The San Joaquin and King's River Canal and Irrigation Company vs. Henry Miller and Charles Lux, in which case the said defendants have filed a cross-complaint against said plaintiffs:

"And whereas, it is desirable to settle and compromise said suit and cross-action.

"And whereas, it is important to this company that it should have a right of way over the lands of said Miller and Lux for its canal, of a width of one hundred feet on each side of the center line of said canal, which they are willing to grant.

"And whereas, the owners of more than three-fourths of the stock of this corporation acquiesce in a settlement upon the basis embodied in this resolution.

"Therefore resolved, That this company hereby expresses its willingness to compromise and settle all matters in difference with said Miller and Lux as follows:

"1. Said Miller and Lux shall by deed convey to this company a right of way for said canal over their lands, where said canal has been constructed, of the width of one hundred feet on each side of the center line of said canal.

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"2. That subdivision Fifth of the contract referred to as Exhibit 'A' in the complaint filed in said action, shall be construed to mean that this company will deliver water thereunder at the regular rates, not exceeding one dollar and twenty-five cents ($1.25) per acre per crop, provided the crops are cut, but in case the alfalfa lands should be pastured, then each supply of water of the usual quantity supplied to produce a crop shall be deemed to be such a supply as will entitle a charge to be made therefor, the same as if a crop shall be cut, and said subdivision shall likewise apply, with the proviso aforesaid, to said Miller and Lux, their tenants, employés, heirs, executors and administrators, and shall run with the land so long as this company exists to the extent of thirty-three thousand, three hundred and thirty-three and one-third (33,333⅓) acres, but shall not apply to the grantees of said Miller and Lux, nor to the grantees of their heirs, executors or administrators; and subdivision tenth of said contract shall apply to all domestic animals owned, pastured or cared for by Miller and Lux, their tenants, employés, heirs, executors or administrators.

"3. That the conditions and stipulations above referred to shall be placed in such proper form as shall be binding upon this company and said Miller and Lux.

"4. And that thereupon said action and cross-action shall be dismissed, each party releasing the other from all claims and demands referred to in said action and cross-action.

"5. That the president and secretary are hereby authorized to carry this resolution into effect."

A. I presume that that is a correct transcript of the minutes of the date of October 30, 1879, and I am willing to admit that it is, subject to correction upon comparison with the record.

617 Mr. LANGHORNE: Defendants offer those minutes in evidence, referred to by the witness.

X Q. 27. Of course the minutes of your predecessor will show the stockholders' meetings and the trustees' or directors' meetings, and also who were the officers of the company at that time, will they not?

A. Yes.

X Q. 28. I will ask you whether those minutes do not show with reference to that meeting, the trustees' meeting of October 30, 1879, that there were present the following trustees of the canal company at that time, namely: Messrs Sedgley, Center, Rosenberg, Potter and Bolton?

A. Subject to verification I will admit that that is a correct transript of the company's record.

X Q. 29. Now then, do not the minutes of the complainant's predecessor show that there was a meeting of the trustees of the company held November 28, 1879, and that the following occurred at that meeting, namely, a statement by the president of the company, and also resolutions adopted as follows:

"The president reported that the resolution passed at last meeting had been carried into effect as therein authorized; that under sub-

CLOSE IN CENTER

division four of said resolution a supplementary agreement had been made with Miller & Lux dated November 12th, 1879, which followed strictly the letter of the resolution, that Miller & Lux had deeded to the company a right of way 200 feet in width; and that the suit and cross-suit has been dismissed.

"Mr. Center offered the following resolution:

"Whereas, this company has ever since the year 1874, charged Miller & Lux for water used by them the full rates of $2.50 & $3.00 per acre, and the same has been entered upon the books of the company as a debit to their account, and

"Whereas, this company brought an action against Miller & Lux to recover the amount so charged, & other disputed charges up to the date of said suit, and for the purpose of establishing the legal construction of a certain contract with them dated Feb'y, 1872;

"And whereas, Miller & Lux have paid for all of said water at the price of $1.25 per acre per crop, the price mentioned in said contract;

"And whereas, this company entered into a supplementary contract with Miller & Lux, dated November 12th, 1879, by which it was agreed that said contract of Feb'y. 7, 1872, should be construed to mean that they are entitled to water thereunder during the existence of this company at a rate not exceeding 1.25 per acre per crop (the rate at which they have paid in full for water supplied to June 30, 1879,) and that said suit should be dismissed.

618 "Therefore, resolved, that the am't now standing to the debit of Miller & Lux on the books of this company, being the excess over $1.25 per acre per crop for water as above, and other charges included in the said suit now dismissed, be cancelled & removed from their account, and the secretary is instructed to make the proper entries to that effect.

"The resolution was seconded by Mr. Rosenberg, & carried by the following vote: Ayes: Messrs. Center, Rosenberg, Sedgley & Bolton (4.) Noes: None. Mr. Lux not voting.

A. Subject to verification I make that admission.

X Q. 30. Now under one of the resolutions passed at that meeting, it appeared to have been resolved by the trustees, "that the amount standing to the debit of Miller & Lux on the books of the company, being an excess of $1.25 per acre per crop, for water as above, and other charges included in said suit now dismissed, be cancelled and removed from their account, and the secretary is instructed to make the proper entries to that effect." Do you remember that resolution at that meeting?

A. I know there was a record of such resolution in the minute book.

X Q. 31. I will ask you whether or not under and pursuant to that resolution was the account of Miller & Lux with the complainant's predecessor credited with a certain amount?

A. It was.

X Q. 32. Do you remember what that amount was?

A. It was $70,085.28.

X Q. 33. And what was the date of that credit on the books of complainant's predecessor?

A. I think I have no record here to show that.

X Q. 34. Was not the date of that credit to Miller & Lux, the crediting of that amount to their account, November 29, 1879?

A. Subject to verification I will testify that it was.

X Q. 35. Does there not appear on page 55 of the Minute Book of complainant's predecessor, the record of a meeting of the trustees of January 21, 1873, in which the following proceedings and matters are set forth:

"On motion of Mr. C. Lux, seconded by Mr. A. H. Rose, Resolved, that as this company, in the midst of one of the seasons of drought which periodically visit this rich & productive por-
619 tion of the State, commenced this enterprise as a permanent relief, & having expended a large amount of money, now ask for Government assistance to a work not second in importance to any public enterprise ever undertaken on the Pacific coast. This company proposes to construct about 300 miles of canal for irrigation & commercial purposes, 40 miles of which are already built, and its waters are eagerly sought after by the inhabitants of the locality. The size of the canal is 50 feet wide, and carrying 4 feet of water. They ask from the Federal Government the proceeds of the sale of two of the even sections of the public lands adjacent to the odd sections in the several counties in the valley which have been granted to the Western Pacific & to the Southern Pacific Railroad Companies, for every mile of canal of this capacity where completed."

A. Subject to verification I will so testify.

X Q. 36. Do not the said minutes show that at trustees' meetings of September 28, 1871, May 7, 1872 and June 3, 1872, the following proceedings were had by the board of directors and other matters shown by the minutes, as follows:

"On motion of Mr. Friedlander, seconded by Mr. Howard, Messrs. Bensley and Chapman were appointed a committee to take the necessary steps to obtain for this company the right to connect the Fresno Slough with Summit Lake and Tulare Lake, the original company for reclamation of those swamp lands having failed to fulfill the terms of their charter.

"Upon motion of Mr. Friedlander, seconded by Mr. Chapman, it was ordered that the Chief Resident Engineer, upon the completion of the work on which the Chinamen under his charge are now engaged, shall immediately transfer the force to the proposed canal from Tulare Lake, and commence active operations in the construction of said canal.

"The chief consulting engineer informed the board that he proposed to leave for Europe during the present week; and upon motion of Mr. Friedlander, seconded by Mr. Rose, the executive and finance committee were authorized to enter into such arrangements with him for the provisional sale of forty thousand shares of the capital stock of the company as may in their judgment be expedient.

Minutes of June 3, 1872, Page 31.

"2. The board then proceeded to consider the best starting point for the canal from Tulare Lake, under existing circumstances, and on a motion from Mr. Rose, it was agreed that Mr. Stangroom be authorized, when his working force is ready, at a point about Blakeley's, where the cutting will leave the slough and be in dry ground."

A. Subject to verification I will so testify.

Mr. LANGHORNE: It is admitted by counsel that said minutes show that by order of the company, Mr. R. M. Brereton went to Europe before the end of 1872, with a view of, among other
620 things, disposing of some of the company's stock, namely, 40,000 shares, and that his mission was unsuccessful. This admission is made for the purpose of saving time in reading the minutes upon that subject.

Mr. TREADWELL: We admit that, subject to the objection, that it is incompetent, irrelevant, immaterial and not cross-examination.

The MASTER: I overrule the objection.

(By Mr. LANGHORNE:)

X Q. 37. Do not said minutes of August 20, 1872, show the following proceedings:

"2. The members of the board then proceeded to discuss what force of men should be continued at work at the canal from Tulare Lake, as Mr. Stangroom reported the men were leaving every day.

"Mr. Howard proposed, and was seconded by Mr. Chapman, that Mr. Stangroom be instructed to continue the present force of Chinamen at the same wages they are now receiving on the line of canal from Tulare lake. Carried unanimously, and Mr. Stangroom received his instructions accordingly then and there."

A. The same answer.

X Q. 38. Do not said minutes of August 29, 1872, show the following proceedings by said board of directors:

"3. Mr. Friedlander, seconded by Mr. Moss, moved that the contract be recorded in the recorder's office, Millerton, Fresno Co. Carried. It was also resolved that the gen'l superintendent be directed to cause the present engineer corps, headed by Mr. Mason, to run the line for the distributing ditches on the 6000-acre tract, and immediately thereafter continue the line of canal from Tulare lake to tide water at Antioch. Carried unanimously."

A. The same answer.

Mr. LANGHORNE: It is admitted that on January 21, 1873, the trustees of complainant's predecessor started the project of selling 75,000 shares of the stock of the corporation of complainant's predecessor held by the stockholders, in blocks of 500 shares or less, to the people of California, the purpose being to invite the people to participate in this corporation, and that the project to sell that amount of stock failed. It is also admitted that the 75,000 shares of stock referred to, consisted in whole or in great part of stock

already held by the stockholders of the corporation, and which they agreed, in case the project should be successful, to sur-
621 render for that purpose.

Mr. TREADWELL: We admit it, but subject to the objection that it is incompetent, irrelevant and immaterial, and not proper cross-examination.

The MASTER: The objection is overruled.

(By Mr. LANGHORNE:)

X Q. 39. Mr. Merritt, do not said minutes of January 21, 1873, of the trustees of complainant's corporation, show the following proceedings:

"2. On motion of Mr. C. Lux, seconded by Mr. A. H. Rose,

"Resolved, That as this company, in the midst of one of the seasons of drought which periodically visit this rich & productive portion of the State, commenced this enterprise as a permanent relief, & having expended a large amount of money, now ask for Government assistance to a work not second in importance to any public enterprise ever undertaken on the Pacific coast.

"This company proposes to construct about 300 miles of canal for irrigation & Commercial purposes, 40 miles of which are already built, and its waters are eagerly sought after by the inhabitants of the locality. The size of the canal is 50 feet wide, and carrying 4 ft. of water. They ask from the Federal Government the proceeds of the sale of two of the even sections of the public lands adjacent to the odd sections in the several counties in the valley which have been granted to the Western Pacific & and to the Southern Pacific Railroad Company, for every mile of canal of this capacity when completed.

"On motion of Mr. Friedlander, seconded by Mr. Chapman,

Resolved, the shareholders of this company, desiring the cooperation of the public press & their fellow-citizens in the rapid completion of this great enterprise, without the aid of foreign capital, hereby invite the people of this State to subscribe to the capital stock of the company on the same basis & price as the original subscribers.

"It was also unanimously resolved that the following resolution be signed by the president and published in all the San Francisco papers for one month, viz:

"Resolved, that, in order to secure a co-operation of the citizens of California in one of the most important works for the benefit of the agricultural and commercial interests of the State, the president is hereby instructed to open books for the subscription of 75,000 shares of the 100,000 shares, of $100 each, capital stock of the company, at the present cash cost of this work now done. No subscription to be received for more than 500 shares.

"Notice is hereby given, in conformity with the above, that books of subscription for the 75,000 shares are now open at the office of the company, No. 320 California street, room 9, during business hours, for thirty days. Capital stock, $10,000,000, divided into 100,000 shares, of $100 each.

"About 40 miles of canal are completed, and supply water for irrigating lands bordering on the canal.

"Several surveys are made from Tulare Lake to near
622 Antioch, say 200 miles, and work progressing.

"The company has no debts. For further particulars and terms of subscription, apply at the office of the company."

A. The same answer.

X Q. 40. I will ask you, do not the said minutes of May 8, 1873, of the trustees' meeting, show the following:

"4. It was then discussed as to what should be the price of water for the people using it, along the line of the company's present canal for this year. It was eventually resolved that the price for this year shall be $1.50 per acre, and 75c. per acre for all land irrigated but not cultivated."

A. The same answer.

X Q. 41. Do not the minutes of trustees' meeting—and when I say "trustees' meeting," I mean the meeting of the board of directors of the complainant's predecessor——

A. Yes, the board of trustees.

X Q. 42. Do not those minutes of June 25th 1873, show the following:

"4. A letter from Mr. Bensley, respecting his unassessable stock, was read and ordered spread on the minutes, which is as follows:

'SAN FRANCISCO, *June 17th*, 1873.

R. M. Brereton, Esq.,

DEAR SIR: In reply to your favor of June 4th, I have to say that I have seen the different persons interested in the fifteen thousand shares of the San Joaquin & Kings River Canal & Irrigation Company, and after conference with them I hereby offer to you all of said shares at four 50/100 dollars per share in gold coin, said offer to remain open to you till 31st July, 1873. Provided, however, and upon this condition only—that Messrs. Chapman & Friedlander bind themselves to said company to give the subsidy of two 50/100 dollars per acre on all of their lands susceptible of being irrigated below the present canal & its extensions. You informed me they are willing to do this in case the above unassessable stock could be secured on the terms I have herein offered.

Yours respectfully,

(S'd) JOHN BENSLEY.'"

A. The same answer.

X Q. 43. Do not the said minutes of directors' meeting of September 25, 1873, show the following:

"3. Mr. Moss informed the directors that he was anxious to have something settled respecting the subsidies to be obtained from the farmers in the San Joaquin Valley & offered the following
623 resolution:

Resolved, That the president be authorized to make arrangements with Messrs. Blackwell & Harris to procure subsidies from the farmers and land-owners in the valley along the line of

the canal for which they will receive one-third cash when the subsidies are signed, the balance on the completion of the canal.

"Carried unanimously."

A. The same answer.

X Q. 44. Do not the said minutes of directors' meeting of November 28, 1873, show the following:

"2. It was moved by Mr. Howard & seconded by Mr. Bensley that the alterations made in the subsidy agreement & signed by Messrs. Friedlander, Lux & Chapman, respecting the twenty-six thousand acres between Los Banos & Orristimba creeks, made by the president, be fully authorized by the board."

A. The same answer.

X Q. 45. Do not the said minutes of stockholders' meeting of December 1, 1874, show the following:

"Mr. Bensley asked the attention of the meeting, and said that he felt obliged to reply to certain misrepresentations in the report of the chief engineer, although he regretted very much the necessity of doing so. He had noticed a statement that in assuming the debts of the former Co., this Co. had paid to them a much larger sum than such liabilities really amounted to. This he regarded as false, as the books would show, and a committee appointed at that time to examine them had certified to their correctness. Secondly, it was stated that up to the 9th of May, 1873, the canal was a mere 'artificial slough,' and all the work which was done previous to that time was of no real value to the company. In answer to this he would say that the canal at that date as as good in every respect, for all practical purposes, as it is today. Again, it was stated that there had been a waste in the management of the affairs of this company, amounting to *to* $350,000. He thought it very likely that this might be true, but, if so, it had been caused by Mr. Brereton, the chief engineer, who had been in charge of the canal ever since his appointment, Oct. 19th, 1871, had always carried out his own plans, and had always everything at his command that he desired.

Mr. Brereton replied that he held correspondence of Mr. Bensley, as president of the Co., which would show that he was not responsible for the management of the canal affairs until he took charge as business manager, May 8th, 1873, after his return from Washington, and said correspondence would also show that Mr. Bensley was the responsible party up to that date.

This caused a long discussion on past affairs, and Mr. Bensley finally made a motion that a committee be appointed to investigate this whole matter, and that the election of trustees be postponed until they report; thought it eminently proper that this should be done, and stated that he could conclusively prove to said committee

that Mr. Brereton, as engineer, had made many mistakes,
624 which had cost the company a great deal of money. And, in regard to the am't paid to the old company if it could be shown that they had received a larger am't from this Co. than they were entitled to, he would agree to refund every cent of it.

Mr. Bensley's motion was seconded by Mr. Simmons. Mr. Luning thought that said investigation should be made, but he saw

no reason why the election of trustee should be postponed, as it could be done equally well by the new board.

Mr. Friedlander coincided with Mr. Luning.

The president ruled Mr. Bensley's motion out of order; as there was a former motion before the meeting."

I offer in evidence the minute order of December 31, 1874, page 141:

"A communication from Mr. Brereton was read, dated 29th December, in reference to am't expended on construction acc't by this Co. and by the former Co., and giving it as his opinion that the 15,000 shares of unassessable stock paid to the old Co. was an excess of what was legally due to them, and that the same might be recovered.

On motion of Mr. Chapman, the communication was received, and laid upon the table."

A. The same answer.

X Q. 46. Do not said minutes of the directors' meeting of May 27, 1875, show the following:

"Mr. Friedlander moved, seconded by Mr. Chapman, that the president be authorized to continue the work on the Tulare lake canal, at an expense not exceeding twenty-five thousand dollars during the present year. Carried."

A. The same answer.

X Q. 47. Do not the minutes of directors' meetings of September 1, 1875, May 26, 1876, June 20, 1876 and May 1, 1877, show the following:

"The president reported that about $6000 had been thus far expended upon the Tulare lake canal this season, and said that he supposed the policy of the company would remain the same as to expending $25,000 thereon during this year."

"Mr. Friedlander moved, seconded by Mr. Walker, that the action of the president in authorizing the prosecution of Mr. Henry Miller for tearing down the company's fence, be fully approved, and that the president be directed to prosecute all trespassers according to law. Carried unanimously."

"The minutes of the last meeting were read. Mr. Lux said he thought the trustees acted hastily at that meeting, and that their proceedings showed malice against Miller & Lux, and should not appear upon the records. After some discussion Mr. Friedlander made a motion that the mintues be approved as read, seconded and carried, Mr. Lux voting No.

Mr. Moss said that Mr. Miller, with his att'ys, Mr. Mastick and Mr. Bergin, had called upon Mr. Nourse on the 16th inst., and an application had been drawn up, signed by Miller & Lux, for a temporary supply of water. Mr. Friedlander said that he had read the application and thought Mr. Nourse should be consulted further in reference to it; as he is out of town, he would move
625 that it be laid upon the table. Carried."

On motion of Mr. Walker, Mr. Northam was elected chairman of the meeting, both the president and the vice-president being absent.

An application was read purporting to be from Miller & Lux, signed 'Miller & Lux, p. Bolton,' dated Apr. 30th, for water to overflow grass lands about three miles north of Firebaugh's. After discussion, it was moved by Mr. Walker that the application be rejected, because said application is not made in the form prescribed by the rules & regulations of this corporation, and for the further reason that it purports to be made under a contract which this corporation does not recognize as giving said applicants any rights in regard to water for irrigation subsequent to the 1st day of Aug., 1874. Seconded and carried unanimously.

On motion of Mr. Chapman, seconded by Mr. Walker, it was resolved, that this company is willing to permit parties to have water this summer to irrigate their uncultivated grass lands at special rates, not less than $1.25 U. S. gold coin per acre, and that the superintendent, Mr. Coffman, is authorized to so agree with them and accordingly permit such use of water. But this is not to be deemed or taken to be an admission of any rights claimed by any such party or parties under any alleged contract with this corporation, nor of any construction of such contract claimed by such party or parties."

A. The same answer.

Mr. LANGHORNE: It is admitted that on the 4th day of December, 1877, at the stockholders' election held that day, a board of directors of the complainant's predecessor was elected, a majority of whom were nominees of Miller & Lux, and that Miller & Lux have had a majority of the board of directors of complainant's predecessors since that time.

Mr. TREADWELL: Yes, that is admitted.

Mr. LANGHORNE: Will you also admit that Miller & Lux have had a majority of the board of directors of the complainant corporation ever since its formation.

Mr. TREADWELL: Yes.

Mr. LANGHORNE: It is also admitted that a majority of the board of directors of the complainant corporation have been, since its incorporation, the nominees of Miller & Lux Incorporated.

Mr. TREADWELL: Yes, that is admitted.

626 (By Mr. LANGHORNE:)

X Q. 48. Mr. Merritt, do not said minutes of the special meeting of board of trustees of complainant's predecessor of December 5, 1877, show the following:

"SAN FRANCISCO, WEDNESDAY, *December 5th*, 1877.

"Pursuant to the call of the president, a special meeting of the board of trustees was held this day at the company's office at 1 p. m.

Present, Messrs. Sedgley, Lux, Miller, Reese, Crim & Center, trustees. Also Mr. Mastick.

Absent, Mr. Potter.

The reading of minutes was dispensed with.

Mr. Center presented the following:

Resolved, That the president be & hereby is authorized and directed to proceed with the construction of the Tulare Lake canal so as to connect the same with Tulare Lake, and so that the waters of the lake shall be made available for the purposes of this company. Seconded by Mr. Lux, and carried unanimously.

The following resolution was presented by Mr. Reese, who moved its adoption:

Whereas, the San Joaquin & Kings River Canal & Irrigation Company has sold its personal property which was upon the land known as the Company's Canal farm, leased of Miller & Lux, by a written lease dated August 14th, 1872, and said lease will expire on the first day of January, A. D. 1878.

And it being for the interest of the company that said land should be cultivated during the coming season, and that the water of the company be used thereon for the purpose of irrigation.

And it appearing that Miller & Lux are willing to take immediate possession of said land for the purpose above stated, reserving to themselves all rights and claims which they otherwise may have by virtue of said lease,

It is therefore resolved, that the possession of said land be immediately delivered to Miller & Lux, but without prejudice to any rights or claims which said company may otherwise have by virtue of said lease, and without prejudice to Miller & Lux.

The motion was seconded by Mr. Center, and carried by the following vote: Ayes, Messrs. Sedgley, Reese, Crim & Center (4). Noes none. Messrs. Lux and Miller not voting.

Mr. Lux then submitted a proposition on behalf of Miller & Lux, that the value of the ditches & improvements on the company's Canal farm be at once appraised, in accordance with the terms of the lease, and naming Mr. H. G. Tanner to represent Messrs. Miller & Lux. After some discussion, Mr. Crim moved that the proposition of Miller & Lux, to have the value of the ditches on the Canal farm appraised at once, be accepted, and that Mr. R. M. Wilson be authorized to act as appraiser on behalf of the company.

Seconded by Mr. Reese, and carried. Ayes, Messrs. Sedgley, Reese, Crim & Center (4). Noes, none. Messrs. Miller and Lux not voting.

Mr. Miller said that the company had not complied with its agreement in regard to sowing the Canal farm to alfalfa; that about 1400 acres had been sown which was afterwards neglected and perished, and that about 600 acres more which had attained a good start was rooted up by hogs. He said that Miller & Lux
627 claim the full am't of the stipulated damages, & thought the matter should be settled now by the appointment of one man by the company, and another by Miller & Lux, to appraise the damages. Mr. Center made a motion that Mr. R. M. Wilson be instructed to examine and report on the condition of the farm; as to how much of the land is capable of producing alfalfa; how much has been put in alfalfa; and how much is now in alfalfa. Motion seconded by Mr. Reese, and carried.

Ayes, Messrs. Sedgley, Reese, Crim & Center. Noes, none. Messrs Miller and Lux not voting.

Then on the same page:

On motion of Mr. Reese, the following resolution was adopted:

Resolved, that Henry Miller be and hereby is authorized to discharge any and all employees of the company now employed by the company upon and now operating the canal or doing any work thereon. Also to employ any persons for the company whom he thinks proper. Also to settle all claims for wages or supplies, and draw drafts upon the president therefor.

There being no further business before the meeting on motion adjourned.

F. L. PALMER, *Sec'y.*

A. The same answer.

X Q. 49. Do not said minutes of directors' meeting of April 25, 1878, show the following:

"San Francisco, Thursday, *April 25th*, 1878.

"The regular monthly meeting of the board of trustees was held this day at the company's office at 1 p. m.

Present, Messrs. Sedgley, Potter, Center & Rosenberg.

Absent, Messrs. Miller, Lux and Crim.

Minutes of meetings of Jan. 31, Feb. 28, M'ch 28 & 29, read and approved.

The president said he had received a communication from Miller & Lux, dated April 5th, 1878, claiming $20,000 damages for failure on the part of the company to leave the tract leased of them August 14, 1872 (known as the company's Canal farm) with a growing crop of alfalfa thereon at the expiration of the lease. The letter was read. Mr. Sedgley gave a detailed explanation of the matter, and said to have it thoroughly understood he would ask the sec'y to read the documents on file relating thereto. The lease was read, and the reports of the appointed referees, Messrs. Wilson and Tanner, received at meeting of Dec. 27, 1877. The report of J. M. McPike, subsequently sent up by the president to examine the farm, was also examined, and two letters from Mr. Henry Miller, dated March 30, 1878, one claiming $2,000 damages from the company for having grazed the alfalfa field close just prior to turning it over to Miller & Lux for pasturage Nov. 1, 1877, as provided in the lease. The other letter was in explanation of an offer of $7,500 made by Mr. Miller to Mr. Stangroom, sup't, in payment for the ditches and improvements on the farm.

Mr. Center moved, seconded by Mr. Rosenberg, that the report of J. M. McPike, dated Jan'y 3rd, 1878, be received and placed on file. Carried.

On motion of Mr. Center, it was ordered that the reports of Wilson & Tanner, and of J. M. McPike be spread upon the minutes.

628 *Reports of Wilson and Tanner.*

" 'The undersigned referees, appointed by Miller & Lux, and the San Joaquin & Kings River Canal & Irrigation Company, to appraise the value of the improvements, levees, ditches, and irrigation works on the land of Miller & Lux and heretofore rented by the San Joaquin & Kings River Canal & Irrigation Co., after a careful examination, do appraise the value of said improvement, levees, etc.; as follows, to wit:

Buildings, corrals, &c., at Home place	$2000.
" Bailey camp	100.
" Barley field camp	50.
Six and one-half miles of primary ditches	325.
Twenty-six and one-half miles of secondary ditches	663.
Twenty-eight set- of water gates	390.
Twenty-eight single water gates	195.
Seven miles of levee	175.
Six miles of Bowan ditches	300.
Boxes in Bowan ditches	22.
Seven bridges	280.
Total valuation	$4500.

Dec. 12, 1877.

R. M. WILSON,
H. G. TANNER,
Referees.

"STATE OF CALIFORNIA,
County of Merced:

On this 14th day of December, A. D. 1877, before me, S. A. Smith, a justice of the peace in and for the county of Merced, personally appeared R. M. Wilson and H. G. Tanner, known to me to be the persons whose names are subscribed to the annexed instrument, who each acknowledged to me that they executed the same.

In witness whereof, I have hereunto set my hand and affixed my private seal (having no seal of office) the day and year in this certificate first above written.

S. A. SMITH, [SEAL.]
Justice of the Peace.

" 'Whereas, by the terms of a certain lease made by Miller & Lux to the San Joaquin & Kings River Canal & Irrigation Company, whereby they leased to said canal & irrigation company, five thousand acres of land, more or less, in Fresno county, State of California, and known as the 'Canal Company's Farm' for the term of five years from the date of said lease, and at the expiration of said term to leave said land in growing alfalfa, and whereas said lease has expired and said canal & irrigation company have not left said land in growing alfalfa, we the undersigned persons, appointed by said

Miller & Lux, and said canal & irrigation company, respectfully, to appraise the value of improvements, ditches and levees on said land, also to report whether, in their judgment, said land will grow alfalfa. Both of said referees having had much experience in growing alfalfa, after a personal inspection of said land, do report that, in their judgment, said land will grow alfalfa, provided said land is tilled and sown in a farm and workmanlike manner, but find no growing alfalfa on said land.

"'Signed this 14th day of December, A. D. 1877.

R. M. WILSON,
H. G. TANNER.

629 "'STATE OF CALIFORNIA,
County of Merced:

"'On this 14th day of December, 1877, before me, S. A. Smith, a justice of the peace in and for the county of Merced, personally appeared R. M. Wilson and H. G. Tanner, known to me to be the persons whose name- *is* subscribed to the annexed instrument, who each acknowledged to me that he executed the same.

"'In witness whereof, I have hereunto set my hand and affixed my private seal (having no seal of office) the day & year in this certificate first above written.

S. A. SMITH, [SEAL.]
Justice of the Peace.'

"'*Report of J. M. McPike.*

"'Report made by John M. McPike on the value and estimate and condition of what is known to be the Canal farm of the San Joaquin and Kings River Irrigating Canal Company, this 3rd day of January, A. D. 1878, viz.:

"'1st, the valuation of the division called the Bailey farm, No. blank on plot of said farm.

"'Valuation of Improvements.

"'Small house & corral & Shed..... $65.

"'No. of acres of land in said division:

"'1500 acres total irrigation,

"'580 acres sown in alfalfa, but destroyed in part by hogs, almost or quite valueless and not to be considered as set*t* in alfalfa on a/c of being destroyed by hogs, rooting or pulling the same out by the roots, rendering it without but partial value.

"'2nd. Of said 1560 acres there *is* about 400 acres not suitable to make a good fair stand of alfalfa, and about 1160 acres of the 1560-acre tract irriga*teab*le & susceptible of raising a good crop of alfalfa or wheat or barley.

" 'Division No. 1—Value of Improvements.

1st. Stable.....value	$200.
2nd. Wash-house "	25.
3rd. Chic*h*en-house	10.
4th. Blacksmith shop, sheds, &c.	125.
5th. Storehouse	40.
6th. Men's house, for laborers	30.
7th. Kitchen " "	70.
8. Dwelling boarded & battened rough	300.
9. Fencing & posts in corrals, garden, &c.	300.
Total	$1100.

" 'No. of acres in said division, 1710 A.

" 'Non-irrigable 96 A. in said tract, all irriga*t*able and sown except 96 A. 1614 irrigable to alfalfa, but wholly valueless on a/c of being rooted and destroyed by hogs, except small patches which *is* only detrimental to said land, and no value.

" 'Division No. 2 or 2nd Division.

" '1740 acres. Irrigable, 1451 acres. No alfalfa sown. Total irrigable suitable for growing alfalfa, but never planted in alfalfa. Improvements none.

" 'No. 3.

" 'Improvements corral & shanty	$25.	
" 'No. of acres irrigable	943	acres
" 'Non-irrigable	757	do.
Total in field	1700	acres.

630 " 'Whole length of secondary ditches in the foregoing 4 divisions and value per miles:

" 'Miles total, 8-1/4, at $100 per mile	$725.
" 'Gates & Boxes in same valued	250.

" 'Primary or small ditches:

" 'No. of miles 34, at $30 per mile	1020.
" 'Length of levee 2 miles to hold water	250.
" '6 miles of Bowan ditch, $100 p'r mile	600.
" 'Regulating boxes, 7, at $3 each	21.

" 'Mr. Jos. Sedgley to the president of the San Joaquin Irrigating Canal Co., known or called the San Joaquin and Kings River Canal Co., situated in the county of Merced, State of California.

" 'SIR: After going over and surveying said ditches and its tributaries, and also the improvements above mentioned, and fairly and

impartially valueing and representing in the above bills enumerated and footing up same carefully, find the total am'ts of ditches, lengths and value in present condition as above stated, and am willing to verify to same according to the best of my judgment and report, for which I hope will be satisfactory to all concerned.

"'Signed and sealed and subscribed to by me, this 3rd day of January, A. D. 1878.

"'(Signed) JNO. M. McPIKE, [L. S.]
Appraiser for the San Joaquin Irrigating Canal Co. of Merced Co., California.

"'(Signed) JNO. M. McPIKE.'

"Mr. Center moved that the report of the referees, Wilson and Tanner, received formally at me-ting of Dec. 27, 1877, be confirmed, & that the president be authorized to settle with Miller & Lux on the basis of that report. Seconded by Mr. Rosenberg and carried.

"Mr. Center moved that the $2000 claim of Miller & Lux, as per letter of Henry Miller, dated M'ch 30, 1878, be rejected. Seconded by Mr. Rosenberg, & unanimously carried.

"Mr. Rosenberg then submitted the following, and moved its adoption:

"Whereas, by reports on file of R. M. Wilson and H. G. Tanner, it appears that the terms of lease with Miller & Lux, dated August 14, 1872, have not been complied with, and that the company is liable according to its terms for the liquidated sum of $20,000, gold coin to Miller & Lux.

"Resolved that the sum of $20,000 be paid to Miller & Lux in full of all claims of any kind whatever arising under or through said lease, or all or any of its covenants. Seconded by Mr. Center, and carried unanimously.

"There being no further business before the meeting, on motion of Mr. Potter, adjourned.

F. L. PALMER, *Sec'y.*"

A. The same answer.

X Q. 50. Do not said minutes of stock holders' meeting of December 3, 1878, show the following:

"Mr. Miller said the amount expended on the company canal farm was no doubt astonishing, and the reason of it was that the men formerly placed in charge of it were incompetent. Miller & Lux had paid $4500 for the ditches & improvements, which
631 were not worth $1500; in fact, the ditches were worse than useless, and he had built new ones, disregarding the old ones entirely and plowing right across them. He hoped the committee would be appointed."

A. The same answer.

X Q. 51. Do not said minutes of the meeting of directors of October 30, 1879, show the following:

"Mr. Center, chairman of the committee appointed at last meeting, said the committee had made a careful examination into the case of the Company vs. Miller & Lux, and presented their written report,

which he read. Mr. Potter moved that the report be received and placed on file, motion seconded and carried.

"Mr. Rosenberg then offered the following resolution and moved its adoption:

"Whereas, there is a suit pending in the district court of the nineteenth judicial district of the State of California, entitled The San Joaquin and K-ng's River Canal and Irrigation Company vs. Henry Miller and Charles Lux, in which case the said defendants have filed a cross-complaint against said plaintiffs;

"And whereas, it is desirable to settle and compromise said suit and cross action;

"And whereas, it is important to this company that it should have a right of way over the lands of said Miller & Lux for its canal of a width of one hundred feet on each side of the center line of said canal, which they are willing to grant;

"And whereas, the owners of more than three-fourths of the stock of this corporation acquiesce in a settlement upon the basis embodied in this resolution;

"Therefore, resolved that this company hereby expresses its willingness to compromise and settle all matters in difference with said Miller and Lux as follows:

"1. Said Miller and Lux shall by deed convey to this company a right of way for said canal over their lands where said canal has been constructed, of the width of one hundred feet on each side of the center line of said canal.

"2. That subdivision fifth of the contract referred to as Exhibit 'A' in the complaint filed in said action, shall be construed to mean that this company will deliver water thereunder at its regular rates, not exceeding one dollar and twenty-five cents ($1.25) per acre per crop, provided the crops are cut, but in case the alfalfa lands should be pastured, then each supply of water of the usual quantity supplied to produce a crop shall be deemed to be such supply as will entitle a charge to be made therefor, the same as if a crop shall be cut, and said subdivision shall likewise apply, with the proviso aforesaid, to said Miller and Lux, their tenants, employees, heirs, executors, and administrators, and shall run with the land so long as this company exists to the extent of thirty-three thousand, three hundred and thirty-three and one-third (33,333-1/3) acres, but shall not apply to the grantees of said Miller and Lux, nor to the grantees of their heirs, executors or administrators; and subdivision tenth of said contract shall apply to all domestic animals owned, pastured or cared for by Miller and Lux, their tenants, employees, heirs, ex-

632 tors or administrators.

"3. That the conditions and stipulations above referred to shall be placed in such proper form as shall be binding upon this company and said Miller and Lux.

"4. And that thereupon said action and cross-action shall be dismissed, each party releasing the other from all claims and demands referred to in said action and cross-action.

"5. That the president and secretary are hereby authorized to carry this resolution into effect.

"Mr. Bolton seconded Mr. Rosenberg's motion, and it was carried unanimously."

A. The same answer.

X Q. 52. Do not said minutes of stockholders' meeting of December 2, 1879, show the following:

"The annual report of Jos. Sedgley, pres't, was then read and on motion of Mr. Rosenberg, received and ordered on file.

"The president then called for the report of the committee of the stockholders referred to in his report. Mr. Baum replied that he and Mr. Wilmerding, in visiting the canal, did not understand that they were acting as a committee; the president and Mr. Lux were going up, and on invitation they joined them. He was, therefore, not prepared with any report. However, he could say that he was much gratified with what he saw; everything seemed to be managed economically, so far as they could judge, and better they would admit than under the old board; more than that he was not prepared to say. The president thanked Mr. Baum and said he was sorry that a written report had not been made. He then asked if any of the stockholders wished to ask any questions or make any remarks.

"Mr. Baum said that he desired to enter a protest in the name of J. Mora Moss against the settlement made with Miller and Lux of the old suits, referred to in the president's report, and wished a note made of it on the minutes.

"The president said he would like to know the grounds of the protest. Mr. Baum replied that he would make a written protest hereafter, but that he wished now to reserve all his rights, and wished to make an examination of the matter upon the arrival of Mr. Moss, who is on his way from the East. He said he did this, not for himself, but as representing Mr. Moss, who had so instructed him. The president said the papers were all on file, and at Mr. Baum's service at any time. He then explained the nature of the settlement at some length, and said the new arrangement with Miller and Lux did not change the old contract, but defined it."

A. The same answer.

X Q. 53. Do not said minutes of directors' meeting of June 27, 1881, show the following:

"On motion of Mr. Baum, seconded by Mr. Lux, it was

"Resolved, That the company's supt. be authorized to sell water for summer crops of corn, pumpkins, &c. under rule 9 of the rules & regulations, at $1.50 per acre.

"There being no further business, on motion adjourned.

F. L. PALMER, *Sec's.*

A. The same answer.

633 X Q. 54. Do not said minutes of directors' meeting of November 1, 1881, show the following:

"The president reported as follows: * * * That he had settled the Co.'s claim against W. S. Chapman, as authorized, receiving from him $400 in money; his deed of right of way for the extension; and one hundred shares of the stock of the company, which he had placed in his own name as trustee for the company.

"He asked what disposition the board wished to make of the 100

shs. of stock, and stated that Mr. Palmer, sec'y, had offered $2.75 per share for it.

"On motion of Mr. Baum, seconded by Mr. Wilmerding, the following resolution was passed:

"Resolved, that the one hundred shares of company's stock received from Wm. S. Chapman be and hereby is sold to F. L. Palmer, at $2.75 per share, and the president and sec'y are hereby authorized to transfer the same to him on receipt of $275."

A. The same answer.

X Q. 55. Do not said minutes of stockholders' meeting of December 6, 1881, show the following:

"The president said he had made no written report. That the company had now succeeded in placing its property in a shape where it will pay a small revenue, at least to the stockholders, and perhaps written reports are not so requisite now as they were at a time when they were considered necessary to keep up the courage of the stockholders; he thought they would rather take dividends than the report of any engineer or president they had ever had. Seriously, while he felt that while he might have attempted to make predictions as to the future, he considered it useless to do so, and he had no special recommendations to make at this time. He would say that, in his opinion, with careful management the canal will pay a fair revenue on what it ought to have cost. There is one danger to the company which should be carefully watched and guarded against, and that is the appropriation of water by certain parties higher up on the San Joaquin river, about 45 miles above the Co.'s headworks. Should this scheme prove a success and should it fall into the hands of parties disposed to annoy this company and interfere with its supply of water, they could most easily do so. He said that Mr. Miller had given this matter some attention, and he would like to have an expression of his views concerning it."

A. The same answer.

X Q. 56. Do not said minutes of trustees' meetings of September 27, 1884, February 16, 1885 and December 3 1889 show the following:

"Resolved, That Henry Miller be and is hereby authorized to discharge any and all employees of the S. J. & K. R. C. & I. Co. now employed by the company upon, and now operating the canal or doing any work thereon. Also to employ any persons for
634 the company whom he thinks proper. Also, to settle all claims for wages or supplies, and draw drafts upon the president therefor. Also, to order done any work upon the canal that may, in his judgment, be necessary, such as cleaning out the canal bed, & making repairs, and, in general, to take any necessary measures to the end that the canal may be placed in such condition that a full supply of water may be available for delivery along its entire length, and that it may be so maintained.

"The resolution was seconded by Mr. Lux, and unanimously adopted."

"Resolved, That a parallel canal be constructed from the 19th mile point (approximately) to the 26th mile point (approximately)

of the main canal and on the lower side thereof, connecting the lower extremity of the so-called parallel canal No. 1 with the upper extremity of the so-called parallel canal No. 2. The dimensions of the proposed parallel canal shall be as follows: Surface width fifty-four (54) feet, bottom width thirty (30) feet, vertical depth from top of bank to bottom of canal, four (4) feet, grade one (1) foot to the mile.

"Resolved, That the president of this company be and is hereby authorized to execute a contract in the name of this company with Miller & Lux for the excavation and earthwork for the parallel canal contemplated by the foregoing resolution, at the rate of fifteen cents (15c.) per cubic yard, and that Mr. Chas. Barrett, or some other competent engineer, be employed to compute the number of cubic yards to be paid for on completion of the work.

"The motion to adopt was seconded by Mr. Potter, and carried unanimously."

"Trustees' meeting of February 16, 1885, page 358.

"Mr. Wilmerding said that some of the stockholders had spoken to him on the subject of the company's expenses. He thought the time had come to economize. He believed that a man could be found to do the work of the secretary for $100, whereas the company is now paying $250 a month.

"It was stated in reply that the salary of the secretary is $200 per month, not $250; that it had long been understood that this salary was paid, not only for the services of the secretary, but also as an offset for the *the* services of Mr. Miller, which were of great value to the company, but for which he received no compensation further than that Miller & Lux were permitted to utilize the services of the company's secretary when he was not engaged in the company's work.

"Mr. Wilmerding and Mr. Woods gave it as their opinion that it would be better to pay the secretary only in proportion to the services rendered by him to the company, and to pay Mr. Miller directly for whatever services he might render as a salaried officer of the company.

"The president expressed a doubt whether Mr. Miller would accept such a position, but thought the company could not afford to do without just that executive supervision of its works that Mr. Miller gives.

"On motion of Mr. Wilmerding, the matter was referred to the president with instructions to investigate and report upon it to the board at a future meeting.

"On motion of Mr. Lux, the board then adjourned.

C. Z. MERRITT, *Sec'y.*"

635 *"Trustees' Meeting of December 3, 1889, Page 421.*

"Mr. Allen introduced the following resolution, which was unanimously adopted:

"Resolved, That Henry Miller be and hereby is authorized to discharge any and all employees of the S. J. & K. R. C. & I. Co.

now employed by the company upon and now operating the canal or doing any work thereon.

"Also, to employ any persons for the company whom he thinks proper.

"Also to settle all claims for wages or supplies, and draw drafts upon the president therefor.

"Also, to order done any work upon the canal that may, in his judgment, be necessary, such as cleaning out the canal bed, making repairs, and in general, to take any necessary measures to the end that the canal may be placed in such condition that a full supply of water may be available for delivery along its entire length, and that it may be so maintained."

A. The same answer.

(At the hour of 12 m. recess was had until 2 p. m., when proceedings were resumed as follows:)

X Q. 57. Mr. Merritt, do not said minutes of directors' meeting held December 6, 1898, show the following:

"The president stated that one matter which had given him much annoyance was the suit brought against this company by one Lowrey, a tenant of J. G. James, upon land between Fresno slough and the San Joaquin river, some miles above the company's headworks, to recover damages resulting from inundation of his land alleged to have been caused by the back water from this company's dam incident to raising the water to the point necessary to supply the new outside canal. Notwithstanding a vigorous and necessarily expensive defense, and contrary to the confident expectation of the company's attorneys, Lowrey had obtained a judgment for $22,000 damages. A motion was pending for a new trial, and if not granted, the company would take an appeal; in either alternation, the company's attorneys were confident of ultimate success."

A. The same answer.

X Q. 58. Do not said minutes show the following proceedings of directors' meeting of May 5, 1899:

"At the request of the chair, the vice-president stated that the object of the meeting was to consider the use by Miller & Lux of the surplus water of the company's canal, and whether Miller & Lux were entitled to such use without payment therefor; and he requested Mr. Treadwell, one of the company's attorneys, to make a statement of the situation.

"Mr. Treadwell stated that, in the suit now pending between the company and the county of Stanislaus, as to the validity of the rates fixed by the board of supervisors of that county, the
636 answer set up that large quantities of water were being supplied to Miller & Lux, free of charge, and that if that water were charged for, at reasonable rates, the company would receive a sufficient revenue, even at the rates fixed by the supervisors. He stated that he had investigated the matter and had been informed that the facts were as follows: That at the time of the commencement of the company's canal, Miller & Lux were (as they still are)

the owners of a large body of land on the river, below the dam, having riparian rights, and which they were accustomed to irrigate from the river; that these rights conflicted with any diversion of water by the company, rendering it necessary for the company to acquire these by condemnation or agreement; that these rights had never been condemned or conveyed to the company, except that Miller & Lux, by acquiescence, had permitted the company to divert water into its canal; and that, from the first, the company had always turned out, on the lands of Miller & Lux, all the water of the canal, not needed or demanded by its customers (including Miller & Lux as to their non-riparian and cultivated lands), and had permitted Miller & Lux to use that water free of charge. He further stated that, in the contract of 1872 between the company and Miller & Lux, no mention was made of any right to the surplus water, but a special provision was made for giving them a certain quantity of water free on certain specified occasions; that various disputes had arisen concerning that contract and the course of dealing between Miller & Lux and the company, to settle which the company had brought an action against Miller & Lux, but that no complaint had been made as to the use of the surplus water; that these disputes had been adjusted by the contract of November 12, 1879, which was also silent on this subject.

"Mr. Treadwell stated that, assuming these to be the facts he was of opinion that the contracts gave Miller & Lux no right to the use of this surplus water; but that they had never parted with their riparian rights to any greater extent than should be necessary to supply the company's customers; that the company, therefore, had no right as against Miller & Lux, to divert more water into its canal than the needs of its customers required, and that, whenever there was in the canal any water not so needed, Miller & Lux had the right, as riparian owners, to the use of that surplus water. He further stated that, in his opinion, the company was bound to return its surplus water into the river, and that if, in doing so, it turned that water on the land of any person, such person would have the right to irrigate his land with that water, and could not be made to pay for it.

"He concluded that, therefore, the company had no right to make any charge against Miller & Lux for this surplus water; but suggested that, as Miller & Lux had elected a majority of the trustees, the matter ought to be laid before the stockholders for their advice.

"An informal discussion followed, after which it was moved by Mr. Ward, seconded by Capt. Martin, that a special meeting of the stockholders be called for Wednesday, the 17th inst., at 11 o'clock a. m., for the purpose of presenting to them the statements made by Mr. Treadwell, and obtaining their advice with relation thereto. The motion was put, and unanimously prevailed.

637 "On motion of Mr. Ward, unanimously carried, Messrs. Martin, Ward and Talbot were appointed as a committee to investigate the subject and prepare and submit to the stockholders at said meeting a statement of the case just presented by Mr. Treadwell.

Upon motion, the board thereupon adjourned to meet at the same place on Wednesday, the 17th inst., at 10:30 a. m.

C. Z. MERRITT, *Sec'y.*

A. The same answer.

X Q. 59. Do not said minutes show the following proceedings in matters at an adjourned meeting of the directors held May 17, 1899:

SAN FRANCISCO, CAL., *Wednesday, May* 17, 1899.

"Pursuant to adjournment of 5th inst., the board of trustees of the San Joaquin and Kings River Canal and Irrigation Company met this day at the office of the company, at the hour of 10.30 a. m.

"Present, Trustees Allen, Potter, Miller, Martin, Nickel, Talbot and Ward; the full board.

"President Miller in the chair.

"On motion, the reading of the minutes was dispensed with.

"The committee appointed on 5th inst., to investigate the *the* matter of the free use by Miller & Lux of the surplus water of the company's canals, presented a written report, which, upon request, the secretary read to the board. The report was as follows:

"To the board of trustees of the San Joaquin and Kings River Canal and Irrigation Company:

" 'The undersigned, appointed by your board a committee to investigate the subject of the free use by Miller & Lux of the surplus water of the company's canals, beg leave to report that we find the following to be the facts as to that matter:

" 'Prior to the construction of the company's dam and canal, Miller & Lux were, as they still are, the owners of large bodies of land fronting on the San Joaquin river, and inter-sected by sloughs connected with the river, and were accustomed to irrigate those lands both by the natural overflow of the river and sloughs, and by means of dams and other contrivances. Their riparian rights, as owners of these lands, were such that the company would not have had the right to divert any water from the river to their prejudice without their consent, except by purchase or condemnation. Miller & Lux, however, aided in the organization of the company, gave it a right of way through their lands, and a subsidy in aid of the construction of the canal, and tacitly assented to the diversion of water by the company.

" 'No written agreement was ever made on the subject, but we are satisfied that their acquiescence in the acts of the company would certainly be led to estop them from denying the right of the company to take water to the extent of the capacity of the canal.

" 'It also appears that at all times from the construction of the canal, the company has been in the habit of wasting its surplus water on the lands of Miller & Lux, there being not other outlet to
638 the river from the canal. This surplus water has always been used by Miller & Lux to irrigate wild and uncultivated land, and it is probable that they may have derived considerable ad-

vantage by increase in growth of feed. For this use of the surplus water, no charge has ever been made by the company; but whenever Miller & Lux have desired to irrigate any cultivated lands, or for the purpose of making any crop, they have always paid for the water. Although various disputes have arisen from time to time between the company and Miller & Lux, which disputes led to serious litigation, no complaint has ever — made *made* as to Miller & Lux's free use of the surplus water, and the various contracts which have been made between them and the company have been entirely silent on the subject.

"'We are satisfied that the company can have no claim against Miller & Lux for this use of the surplus water. We think that the acquiescence of Miller & Lux in the diversion of water by the company cannot be supposed to have extended further than the actual cause of dealing warranted. We think it extremely doubtful whether the company could ever have claimed the right, as against Miller & Lux, to take more water into the canal than was needed for its paying cus*su*mers. Miller & Lux would have had just grounds of complaint if the company had carried its canal full at all times and discharged the surplus water into the river below their lands. However this may be, it seems plain to us that the right of Miller & Lux to have this surplus water free, stands on the same basis as the right of the company to divert water from the river at all. Both are dependent upon mutual acquiescence, and a long-continued course of dealing. We, therefore, think that this right, so far as it has been actually exercised, is a proper one, and that the company should recognize it.

"'It also appears to us that this use is in various ways advantageous, even to the company. Some outlet must, of course, be provided for surplus water, and as the company can never know what demand there will be for water, it must frequently be necessary to carry more water in the canal than will be used. As none of the creeks which the canal crosses have any outlet to the river, it would be necessary for the company, in case Miller & Lux should refuse to receive the surplus water on their lands, to purchase or condemn one or more rights of way to the river, and construct channels to carry off the surplus water. This would be very expensive, and would probably cost more than any revenue that could be derived by the sale of this surplus water to Miller & Lux.

"'In the suit now pending against Stanislaus county, it is claimed by the defendants that Miller & Lux ought to pay for this water, and that if paid for, it would very materially enhance the company's revenue. In order to put this matter at rest, we think that the understanding of the parties as to their respective rights in this matter should be reduced to writing, so that no dispute can hereafter arise concerning it. We, therefore, recommend the adoption of the contract, a copy of which is hereto annexed.

"'San Francisco, May 17, 1899.

"'(Signed) D. E. MARTIN,
D. HENSHAW WARD,
W. H. TALBOT,
Committee'.

"The following is a copy of the contract attached to the foregoing report and recommended for adoption:

" 'This agreement, made this — day of ——, 1899, by and between the San Joaquin and Kings River Canal and Irriga-
639 tion Company, a corporation organized and existing under the laws of the State of California, the party of the first part, and Miller & Lux, also a corporation organized and existing under the laws of said State, the party of the second part,

" 'Witnesseth: That, whereas, prior to the construction of the canal of the party of the first part, Henry Miller and Charles Lux were the owners of lands lying along and bordering upon the San Joaquin river, and its sloughs, in said State, and lying above and below the head of the canal of the party of the first part, and were the owners of riparian rights in and to the waters of said rivers and sloughs, and had been accustomed to and did actually use the waters of said rivers and sloughs which naturally overflowed said lands, and also to take water therefrom by artificial means, for the purpose of irrigating said lands and furnishing water for their cattle and live stock, and for other domestic uses, in accordance with their said riparian rights;

" 'And whereas, said Henry Miller and Charles Lux, for the purpose of aiding the construction of said canal of the party of the first part, did pay to the party of the first part a subsidy in money, and conveyed to it a right of way for its said canal, where the same passed through the lands of said Henry Miller and Charles Lux, of a width of one hundred (100) feet on each side of the center line of said canal, and permitted the party of the first part to appropriate and divert from said river through said canal eight hundred (800) cubic feet per second of the water flowing in said river;

" 'And, whereas, at all times since said appropriation was made by the party of the first part, said Henry Miller and Charles Lux, and said Henry Miller, as the survivor of them, and the party of the second part (as the successor in interest of said Henry Miller and Charles Lux) continued, as said riparian owners, to use the overflow waters of said river and sloughs upon said lands for the aforesaid purposes, and also to use, for the purpose of irrigating uncultivated land, and furnishing water for their live stock and for other domestic purposes, and with the consent of the party of the first part and without any charge therefor by it, the surplus water running in said canal not used or required by the water consumers of the party of the first part other than said Henry Miller, Charles Lux, and the party of the second part;

" 'And, whereas, during all said times it was understood by all said parties that said Henry Miller and Charles Lux, and said Henry Miller as the survivor of them, and said party of the second part, as the successor in interest of them, were of right entitled to the said use, without charge, of the said surplus water in said canal, and that said party of the first part was of right entitled to waste said surplus water on said uncultivated lands;

" 'And, whereas, the party of the second part has agreed to

permit the party of the first part to appropriate and divert from said river, through its 'outside canal' three hundred and fifty (350) cubic feet per second of the water flowing in said river in addition to the aforesaid eight hundred (800) cubic feet per second;

"'Now, therefore, in consideration of the premises, and to the end that the rights of the respective parties hereto, as heretofore understood and recognized, may be fixed and established, the party of the first part does hereby confirm unto said party of the second part, the right to use, for the purposes of irrigating said uncultivated lands above referred to and of furnishing water
640 for its cattle and live stock, and for other domestic uses, free of cost, or charge to it, all or so much of the surplus water running in the canals of the party of the first part as the party of the second part may desire to use for said purposes, and which may not be used or required by the other water consumers of the party of the first part; and said party of the second part does hereby confirm unto said party of the first part the right to waste said surplus water on said uncultivated land.

"'And the party of the first part does hereby acknowledge and declare that it has no claim to make against the party of the second part, or its predecessors in interest, on account of the use heretofore made by it and them of said surplus water.

"'In witness whereof, the said parties hereto have caused these presents to be subscribed by their respective presidents and secretaries, under their respective corporate seals, all on the day and year first above written.'"

Upon motion of Mr. Nickel, duly seconded, the report was unanimously adopted.

"Capt. Martin moved, and Mr. Talbot seconded, that the president and secretary of this company be authorized to execute for this company a contract with Miller & Lux in the words and figures recommended by the committee in its foregoing report, and to affix the corporate seal of the company thereto. The motion was carried unanimously. No further business appearing, the board thereupon adjourned.

C. Z. MERRITT, *Sec'y.*"

A. The same answer.

X Q. 60. In these minutes that I have read from the minute book of the predecessor of the complainant reference several times is made to the construction by the complainant's predecessor of the Tulare Lake canal. What portion, if any, of the canal of complainant was that Tulare Lake canal?

A. It was intended that it should be the upper canal, running from Tulare Lake to Antioch. That was the original scheme. But after they had expended considerable money in the surveys, and some construction, they found that the waters of Tulare Lake were receding, so that they could not be carried into the canal, and that project was abandoned altogether.

X Q. 61. Have you not included in your estimate testified to of the cost of the complainant's canal, and shown by the books, the moneys expended on that Tulare Lake canal?

A. No, they have been very carefully eliminated, and the account which now stands on the company's books as the
641 record of the cost of that canal has not been included in the company's statement of the cost of its present system.

X Q. 62. Was it kept as a separate account in the old books of the canal company?

A. Yes, I found an account under that title when I took the books.

X Q. 63. In your prior testimony in the Stanislaus case you were examined about that matter, were you not?

A. Yes.

X Q. 64. Did you not testify at that time that you could not tell from an examination of the old books of the canal company, considering the method of bookkeeping, what had been included in the cost of the complainant's canal?

A. Of its present system, do you mean?

X Q. 65. Well, of the system as it existed in 1896.

A. I don't know just what you refer to, but I presume that I testified that I could not determine from an examination of the books what the cost of construction of the existing system was.

X Q. 66. Now complainant's predecessor engaged for a number of years in farming lands, did it not?

A. Yes, there was an experimental farm carried on for some time when they first began operations, to illustrate the methods of irrigation for the benefit of the communities that they expected to serve where irrigation had not been practiced and where the methods were unknown.

X Q. 67. Was there an account kept of the cost of those farming operations separate from the cost of construction and maintenance of the canal?

A. Yes sir.

X Q. 68. There was a loss, was there not, in those farming operations?

A. Yes.

X Q. 69. Do you remember what that was?

A. My recollection is that it was $111,000. (After referring) $111,916.49.

642 X Q. 70. When were those farming operations abandoned by the canal company?

A. I don't know exactly. I presume I may have to examine the records in regard to that.

X Q. 71. In the minutes which have been read in evidence here, of the old company, it appears to refer to the giving up of the leased land of Miller & Lux and the settlement of certain claims. Was that the time?

A. I presume that was the time.

X Q. 72. That was the time the farm was given up?

A. Yes.

X Q. 73. And I think you testified that that tract of land the canal company owned was sold for $60,000, did you not?

A. Well, I don't know that I did testify to that, because I don't

remember just now what the exact amount was, but it was something in that neighborhood. You mean the Las Garzas farm, do you not? And there was a dividend of $60,000 distributed, which was derived from those sales. Whether that was the exact amount of the sale I am not certain without refering to the record.

X Q. 74. To whom was that land sold?

A. To Miller & Lux.

X Q. 75. You are familiar with this canal? You have been on the ground, Mr. Merritt?

A. Somewhat. I have been over the canal several times.

X Q. 76. When were you first over it?

A. I think it was in 1888.

X Q. 77. In your exhibit, complainant's Exhibit 14, you have as cost of construction to December 31, 1873, as per ledger account, $264,638.47, and then you state: "Less work on upper canal as per Exhibit 7, $9,026.23." What does that "upper canal" mean? What do you have reference to?

A. It is the Tulare lake canal.

X Q. 78. If the Tulare lake canal account had been kept separately, why was it necessary to make the account in this way?

643 A. I don't remember why that happened to be necessary. Of course I can't say certainly that the account representing the cost of construction in that canal was always kept separately. It may have been that I found the items in that shape in the books and carried them into the account for the reason that I found them so. I am not certain, though, just what the reason was, now.

X Q. 79. Is it not a fact that this item, $9,026.23, which you state refers to the upper canal is an item from Mr. Stangroom's statement and vouchers, who was superintendent at the time?

A. I presume that is the case.

X Q. 80. And is it not the fact that that was the only item that you found in the office with regard to the construction of the upper canal, or of the Tulare lake canal, when you went there?

A. I think not. I can't speak positively now without referring to my record, because you must remember that that statement was made up a long time ago and all the facts concerning it are not clear to my mind now; but my recollection is to the contrary.

X Q. 81. Well then, if that is so, why then did you deduct from this item in Exhibit 7 only that item of $9,026.23, if that was not the only item of cost of construction of the upper or Tulare lake canal?

A. Speaking with some reserve, because I may be wrong in my recollections, but to the best of my knowledge, the reason was this, that I was making a statement there with a view to referring to specific items in the book so that they could be readily identified in the book; and Mr. Stangroom's account, to which I referred, that, included with other matters, items of cost of construction of the outside canal—I mean the Tulare lake canal or the upper canal, as it was called—and I carried the whole amount in for the sake

644 of identification and showed the elimination so as to carry forward to the rest of the statement that I was making, only

that portion of his account which belonged to the cost of construction of the system that we are now operating. And I presume that you will find on examining the books that this item which I eliminated was in this book, carried to the Tulare account and with other charges also entered into that account.

X Q. 82. Have you got the book containing the Tulare lake account?

A. I think I have.

X Q. 83. Will you look and see whether you have or not?

A. Yes.

X Q. 84. Had the canal of complainant on December 31, 1873, been completed as far as what is known as the Firebaugh waste?

A. Yes it had been completed farther than that, although I don't know that the Firebaugh waste was in existence at that time.

X Q. 85. Well you know what I have reference to, don't you, when I say Firebaugh waste?

A. Yes. A waste gate a little south of Firebaugh, in the vicinity of Firebaugh.

X Q. 86. About three-quarters of a mile south of Firebaugh?

A. I should say about that far.

X Q. 87. I believe you testified on direct examination that the main canal had been completed to Los Banos creek about February 1, 1874?

A. Yes.

X Q. 88. And Los Banos creek is a considerable distance beyond Firebaugh, is it not?

A. Yes.

X Q. 89. The upper portion, near the head of the main canal, utilized, did it not, all that part of the slough known as China Slough, that ran from near the headgate of the canal to what is known as Firebaugh waste?

645 A. I am not familiar enough with the ground to know whether it carried it as far as that, but it utilized that slough for some distance. At just what point construction began from that down the canal I don't know without referring to the map.

X Q. 90. Have you any accounts showing what the cost of construction of the canal was—that is, of excavation, if any—on that portion of China Slough that was utilized by the canal—that is, the original construction?

A. I am not aware of the existence of any such account.

X Q. 91. You know, do you not, that there was practically no excavation of that slough at all made by the company for the purposes of building a canal?

A. Of course I know nothing except what I see in the records, as to the work that was done at that time, and I do not now recall ever seeing any statement in the record as to what was or what was not done on that portion of the canal.

X Q. 92. Is there any data in your office showing the amount of earth excavated in the construction of that canal—that is, the upper portion, from the headworks to the Firebaugh waste?

A. It is possible, but I don't recollect just that statement.

X Q. 93. I mean earth excavated.

A. Yes.

X Q. 94. Can you look and see whether there is any?

A. Well that would be a pretty long job because there are a great many things to look at. It might take me a week or so to see what there was. I am not aware that there is any such statement, and I should have to look at all the papers to see whether there is or not.

Mr. LANGHORNE: Defendants request the witness to make an examination of complainant's record and ascertain what I have asked him in my question.

Mr. TREADWELL: Does the counsel state that in his former examination of the books of the complainant they have discovered any such, or does he know where to look for them?

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Mr. LANGHORNE: I don't know what the books contain. I am merely asking whether they do or not.

X Q. 95. Have you made any estimate of the cost of construction of the complainant's canal, the main canal, from its head to Los Banos creek?

A. Yes.

X Q. 96. What was it?

A. I think that the annual statement of that that I had went in as an exhibit. I refer to complainant's Exhibit 14. In that exhibit the items on the first page, amounting to $550,201.97 are supposed to represent the cost so far as we are able to show it, of the original construction of the main canal and headworks as far as Los Banos creek. The items following represent the costs of extensions and of the parallels, also of enlarging and of various betterments.

X Q. 97. What was the cost of the headworks as included in this exhibit 14?

A. I cannot segregate the cost of the headworks. I didn't find anything sufficiently definite on that point in the records to enable me to do so.

X Q. 98. Then it is impossible from your records to segregate the cost of the headworks, is it?

A. So far as I have been able to discover.

Mr. TREADWELL: You are talking now about the original headworks or the old headworks?

Mr. LANGHORNE: Well, the headworks meant by the witness as included in Exhibit 14, in the total figures $550,201.97.

Mr. TREADWELL: That is right.

(By Mr. LANGHORNE:)

X Q. 99. I understood you to testify, Mr. Merritt, that up to 1887 the account in regard to construction and maintenance of this canal was intermingled, the cost of construction with the cost of

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maintenance, so that you could not readily segregate them?

A. In 1886?

X Q. 100. In 1886, yes.

A. And I said that the cost of maintenance and the cost of con-

struction were so mingled that I could not segregate accurately all of the items belonging to construction. I could segregate a part, and did so. There were other items which I was confident should go to construction, but which I was unable to identify specifically.

X Q. 101. Did not the Maintenance Account up to the time that you became secretary also include the maintenance of this farm that the company was operating?

A. Well, you must remember that there was no Maintenance Account, so-called, in those books; and the expense accounts that were rendered from year to year at the annual meeting must have included the cost of the maintenance of the farm. And I understand that the cost of such maintenance was all charged to Farm Account.

X Q. 102. You understand that? Do you know of your own knowledge that that was the fact?

A. Of course I do not because I was not there. I took the books on their face.

X Q. 103. But did you see any account in regard to the farm in which the expense of the farm was charged solely to that account?

A. That is my recollection, yes.

X Q. 104. Well, you have the book, have you not?

A. I have the book, yes; at least I think I have the book.

X Q. 105. You can bring it into court, can't you?

A. If I have it I can. The book which I think I can produce is a ledger, and it may not enable me to answer your question as to whether all items of expense for farm were charged to the farm, although that is presumable.

648 X Q. 106. Your testimony then amounts to this, that if they kept the books correctly, that that would be the proper way to do it? Is that it?

A. Yes, and it amounts to this also, that I fear I have not the journal which will explain the item in the ledger.

X Q. 107. Now you were asked in a former case about what the stock of this company sold for, you understand, and I will ask you if you did not then testify that some of the stock of the canal company, the complainant's predecessor, was purchased on February 19, 1897, by Mr. Henry Miller from Mr. Ward for $1 a share.

Mr. TREADWELL: We object to that on the ground that the witness has not testified to any sales of stock of this company on direct examination. It was in cross-examination; and certainly he cannot be impeached on it. We advise the witness that he does not need to answer the question.

(By Mr. LANGHORNE:)

X Q. 108. Well I will ask him. Do you remember so testifying in a former case?

Mr. TREADWELL: We insist on our objection.

The MASTER: The question assumes that he did so testify.

Mr. LANGHORNE: I will ask him, anyway.

X Q. 109. I will ask you, do you know of any sales of the stock of complainant's predecessor in the month of February, 1897?

Mr. TREADWELL: We object to that as not cross-examination and I advise the witness that he need not answer the question.

Mr. LANGHORNE: The witness is put on as one of the most material witnesses to prove the value of this property, and he is allowed to testify as to the alleged cost of construction. On that very point, which is the ultimate issue, we desire to question him.

649 The MASTER: Cannot the testimony be reserved until the time when you make him your own witness? I sustain the objection on the ground that it is not cross-examination.

Mr. LANGHORNE: Defendants note an exception.

X Q. 109½. What books of the complainant's predecessor did you have before the fire of April, 1906, Mr. Merritt?

A. I had them all.

X Q. 110. Please state what they were and how many of each kind?

A. Well, I don't think I can tell you from memory; because there was a set consisting of journal, cash book and ledger, if I remember correctly, that we kept from the time the company was organized until a later date—I don't know what date—when a new set was opened consisting of cash book, journal and ledger; and subsequently another ledger was opened, and possibly still another. Then with each of those ledgers there were the appropriate journals and cash books, but they did not all correspond. They were in period with the ledgers sometimes, and sometimes with the cash books, and sometimes the journals would be used in connection with one ledger, so I can't state from memory how many books there were. Besides that, there were a number of books that were sent in from the superintendent's headquarters and were in my custody. I don't know how many there were of them.

X Q. 111. Have you now the cash book of the complainant's predecessor, the first one that it had?

A. No. The first books were all lost. That I am sure of, because they were in the office and not carried down into the vault.

X Q. 112. Which of them?

A. I think the full set of the first books, the very first books.

X Q. 113. You say the first books? Have you looked to see?

650 A. I have not searched out all of the material that was saved from the first and I am unable to state just what I have.

X Q. 114. Well, please look and see whether the first cash book, ledger and journal of the company was saved.

A. I will endeavor to do so.

X Q. 115. Now about the second set of cash book, journal and ledger, were they saved?

A. I think I have seen that ledger, and that is the one I have been talking about as probably being in the vault now.

X Q. 116. That is the second ledger?
A. Yes.
X Q. 117. Will you look and see?
A. I will.
X Q. 118. You will look and see what books you saved?
A. Yes.
X Q. 119. Please make a list of them.
A. I will.
X Q. 120. Have you preserved the reports of the superintendents or persons having charge of the construction of the canal during the first ten years of construction?
A. I think they were all saved.
X Q. 121. Will you look to see about that?
A. Yes I will do the best I can. It is a pretty big job to sort those papers and see just what they are.
X Q. 122. Now in October, 1877, according to your testimony, Miller & Lux first obtained control of the complainant's predecessor corporation; that is, they had a majority of its stock, and in the annual stockholders' meeting of December, 1877, their nominees were elected a majority of the board of directors, were they not?
A. I believe that was the date.
X Q. 124. How many directors were there in that corporation at that time?
A. Seven.
X Q. 125. Please give the names of the directors who were
651 elected at that time?
A. I cannot do so from memory.
X Q. 126. Was Mr. Potter one?
A. It was altogether likely, but I can't remember.
X Q. 127. What was his first name? Do you remember?
A. Jesse; Jesse S.
X Q. 128. What relation was he to Mr. Miller or to Mr. Lux?
A. He was Mr. Lux' step-son.
X Q. 129. Was Mr. Allen one?
A. No, I don't think so. Do you mean at the time of Miller & Lux obtaining control of the company?
X Q. 130. Yes. Well in 1877?
A. No, I don't think Mr. Allen was connected with it at that time at all.
X Q. 131. You don't think Mr. Allen was at that time?
A. No.
X Q. 132. Mr. Sedgley?
A. Very likely
X Q. 133. What was his first name? Do you know?
A. Joseph.
X Q. 134. Was he connected with Mr. Miller, of Miller & Lux?
A. He was not related to them at all. He was a friend of both Mr. Miller and Mr. Lux.
652 X Q. 135. Then Mr. Henry Miller himself?
A. Yes.

X Q. 136. And Mr. Crim. What was his name? Do you remember?

A. No I don't think he was at all related to Mr. Miller or to Mr. Lux.

X Q. 137. What was his first name?

A. I don't remember.

X Q. 138. Mr. Center?

A. William Center?

X Q. 139. Yes.

A. Yes.

X Q. 140. Did Mr. Center have any relation with Mr. Miller or Mr. Lux?

A. No.

X Q. 141. And Mr. Mastick?

A. He was their attorney

X Q. 142. What Mastick was that?

A. E. B., I suppose.

X Q. 143. Attorney for whom?

A. At the time that I first came into the employ of the canal company, he was the attorney for Miller & Lux and for the canal company too.

X Q. —. For both of them?

A. Yes.

X Q. 145. Then Mr. Mastick came in in 1883?

A. Mr. Mastick came in in 1883.

X Q. 146. You understood that he was the attorney for both the canal company and for Miller & Lux?

A. He acted for each one.

X Q. 147. Now these minutes here of the meeting of December 5, 1887, indicate that Mr. Potter was also one of the directors?

A. Yes.

X Q. 148. That was the Jesse Potter that you have spoken of?

A. Yes.

X Q. 149. Now then you came in as secretary in 1883?

A. Yes.

X Q. 150. Who were the directors then? You have these minutes now, of this company, haven't you?

A. Yes.

X Q. 151. You are familiar with them?

A. Yes.

X Q. 152. I ask you, who were the officers when this board went in in December, 1877, who were the officers of the canal company? Who was its president at that time?

653 A. After the election of this new board?

X Q. 153. Yes.

A. Mr. Joseph Sedgley was elected president.

X Q. 154. And who was the vice-president?

A. I think Mr. Lux was elected vice-president, and there was a Mr. Frank L. Palmer, secretary.

X Q. 155. Mr. Lux was one of the directors, was he?

A. Yes.

X Q. 156. Elected in December, 1877?

A. Well he had been a director long before that, of course. I think he had been director ever since the organization of the company, if I am not mistaken.

X Q. 157. Now you went in in 1883, and who were the directors at that time?

A. My recollection is that the board consisted of Mr. Charles Lux, Mr. Joseph Sedgley, Mr. Henry Miller, Mr. Jesse Potter, Mr. J. C. Wilmerding and Mr. Henry Pierce.

X Q. 158. Was Mr. Sedgley employed by Miller & Lux in any capacity?

A. No.

X Q. 159. And Mr. Potter?

A. Mr. Jesse Potter, yes.

X Q. 160. He was an employé of Miller & Lux, was he not?

A. Yes.

X Q. 161. Now what changes were made in the board of directors after that?

A. After what?

X Q. 162. After 1883, at the time you came in, up to the organization of the complainant corporation, about 1905?

A. Mr. Sedgley died.

X Q. 163. About what time?

A. About 1883, sometime.

X Q. 164. And who took his place?

A. Mr. William Center. Mr. Potter died.

(By Mr. TREADWELL:)

X Q. 165. In 1883 Mr. Potter died?

A. I think it was 1883. I think it was the same year that I became secretary. He was ill at the time and he died before the end of the year, I think. Mr. Potter died.

(By Mr. LANGHORNE:)

654 X Q. 166. About what time?

A. I don't remember when he died.

X Q. 167. Approximately?

A. Well probably not far from 1898, but I am not sure of that date.

X Q. 168. Who was elected in his place?

A. I think Mr. Allen.

X Q. 169. Don't you remember his initials?

A. E. T. Allen. Of course I can't be sure of my memory on matters of that kind, because Mr. Allen may have come in at some other time.

X Q. 170. There is a reference here to Mr. Allen being at one of these meetings, something about it.

A. Yes sir.

X Q. 171. Well, what relation or connection was Mr. Allen to Mr. Miller or to Mr. Lux?

A. Mr. Allen's wife I think was a niece of Mrs. Lux, if I am not mistaken.

X Q. 172. Any other changes?

A. Yes, Mr. Pierce went out.

X Q. 173. About what time?

A. I can't remember the date when he went out. I am not really sure that he was on the board, when I went on there. He had been a member of the board, but whether he was at that time or not, I am not positive.

X Q. 174. Well, how about Mr. Wilmerding?

A. Mr. Wilmerding died and was succeeded by his executor. I can't think of his name. He gave place, as I remember it, to Mr. Talbot, but I am not certain.

X Q. 175. Is Mr. Talbot any relation or connection to either Mr. Miller or Mr. Lux?

A. Not any.

X Q. 176. What other changes in the board?

A. Then there was a Mr. Bell who came in somewhere; J. E. Bell; and Mr. Catton. Of course I have not looked those up to refresh my memory at all, and I don't know that I can be at all certain of the times when these men came in, or the reasons why, or who they succeeded.

X Q. 177. You stated that you had the minutes of the company?

A. Oh yes.

655 X Q. 178. Now will you examine the minutes and give us the names of the directors who went in December in 1877, and all changes that have been made? Give the names of the new directors and when they were elected.

A. I will.

X Q. 179. How much land is under this canal system of the complainant in the counties of Fresno, Merced and Stanislaus; how many acres about?

Mr. TREADWELL: Do you mean all the land that could be irrigated, or that is irrigated?

Mr. LANGHORNE: That could be irrigated?

A. Well, I don't know how much could be irrigated. I don't recollect that we have ever made any statement.

X Q. 180. Do you know, Mr. Merritt, about how many acres there are under the canal?

A. No, I never have computed it.

X Q. 181. You are the secretary of Miller & Lux, are you?

A. Not now.

X Q. 183. You have no connection with them, have you?

A. Yes, I am the office manager.

X Q. 184. How long have you been the office manager?

A. A year.

X Q. 185. Not longer than that?

A. No, I was cashier before that.

X Q. 186. For whom?

A. For Miller & Lux.

X Q. 187. Then you have worked for Miller & Lux for some time, have you?

A. Oh yes.

X Q. 188. How many years?

A. As long as I have for the canal company. I have been jointly employed ever since 1883 by the canal company and Miller & Lux.

X Q. 189. And yet you don't know approximately how many acres they own in those three counties that are under this canal?

A. No.

X Q. 190. Now you presented here some tables of the
656 amount of land irrigated, the number of acres irrigated from the canals of this company from 1897 to date, inclusive?

A. Yes.

X Q. 191. Did those estimates of yours include the number of acres of land belonging to Miller & Lux or to Miller & Lux Incorporated?

A. Yes.

X Q. 192. It includes other land also?

A. It includes other land that was irrigated, other cultivated land that was irrigated.

X Q. 193. Have you made a separate estimate of their lands that were irrigated?

A. Yes, we keep the record on the books of course, so as to show that, but I have not got a separate table at hand.

X Q. 194. You remember that in the former case there was a similar table?

A. I have forgotten. I believe there was.

X Q. 195. You prepared it?

A. Probably.

X Q. 196. You have not prepared any for this case?

A. No.

X Q. 197. Can you prepare it?

A. Yes.

X Q. 198. For the same period covered by this exhibit here, of the irrigated acres?

A. Yes.

X Q. 199. That is, the irrigated, cultivated land of Miller & Lux?

A. Yes.

X Q. 200. Do you know how much of Miller & Lux's land that is not cultivated land but which is mainly pastured, in Fresno, Merced and Stanislaus counties, and which is watered from the waters of this canal, there is? Do you know how many acres?

A. No, there was one year when all—presumably all of the land so irrigated was reported, and I possibly may be able to find that record, although I fear it was lost in the fire. I may be able to get it from the superintendent.

X Q. 201. You mean the cultivated lands?

A. Yes, irrigated.

X Q. 202. What year was that?

A. I think it was in 1904.

657 X Q. 203. You think you can get that record, do you?

A. I will try to get it.

X Q. 204. When did you last see it, Mr. Merritt?

A. I can't tell you that.

X Q. 205. Do you know about how many acres that showed?

A. No, I don't know.

X Q. 206. Miller & Lux did not pay the canal company, the complainant, and did not pay its predecessor anything for the waters upon its uncultivated land, did it?

A. With the exception of this one year, they have not.

X Q. 207. Did they pay that year?

A. Yes.

X Q. 208. In your testimony here, have you referred to all of the contracts between Miller & Lux and Miller & Lux Incorporated, and this complainant or this complainant's predecessor in relation to water rights and waters?

A. Have I submitted all the contracts?

X Q. 209. Yes.

A. I think not.

X Q. 210. You think you have not?

A. I think one of them is not there, but I don't remember just exactly which one we did submit.

X Q. 211. Well, you were asked as to each one, by counsel, when they were introduced in evidence?

A. Yes, that is true enough, but I can't tell you now without going back and looking at them to see whether they are all there. If that is what you want I will look there, and if there are any I will gladly submit anything that has not been submitted.

X Q. 212. If there are any others that have not been introduced in evidence, you will look them up and have them here at the next meeting, will you?

A. Yes.

X Q. 213. Miller & Lux originally was a copartnership consisting of Henry Miller and Charles Lux, was it not?

A. Yes.

658 X Q. 214. And they so continued as a copartnership up to about what year?

A. 1887 I believe was the year; 1888—no, that was the year that Mr. Miller died. The year of the incorporation was 1895, I believe.

X Q. 215. I asked how long that partnership continued; up to what time?

A. I think it was 1895 or 1897.

X Q. 216. 1897 was the year?

A. It was 1905 that the new corporation was formed.

X Q. 217. Then the California corporation was formed, was it?

A. That was the time that the California corporation was formed in 1897.

X Q. 218. Under the laws of California?

A. Yes.

X Q. 219. Then in 1905 they incorporated under the laws of Nevada, did they?

A. Yes.

X Q. 220. Under the name Miller & Lux Incorporated?

A. Yes.

X Q. 221. And as I understand it, all the various rights under these contracts introduced here that Miller & Lux had, had passed to Miller & Lux, the California corporation, and they again passed to Miller & Lux, the Nevada corporation. Is that right?

A. Yes.

X Q. 222. Now how many directors were therein the Miller & Lux California corporation?

A. Really I can't remember. I don't know whether it was 5 or 7.

Mr. LANGHORNE: Will this admission that was made this morning, Mr. Treadwell, that Miller & Lux controlled this canal company—that is, that its nominees formed a majority of the board of directors, that Miller & Lux nominated them and that they were elected, that Miller & Lux had sufficient shares of stock of the canal company to elect a majority of the board of directors of the canal company, does that admission apply to Miller & Lux, the
659 California corporation, and also to Miller & Lux, the Nevada corporation?

Mr. TREADWELL: Oh certainly. It is admitted that ever since that meeting in 1877 Miller & Lux and the two corporations which succeeded them have nominated a majority of the directors of the canal company, both the complainant and the old company.

(By Mr. LANGHORNE:)

X Q. 223. Miller & Lux—and when I say Miller & Lux, Mr. Merritt, I mean from the beginning, through the various changes that have been made from individuals to a corporation, and that will be understood through my question—did Miller & Lux at any time pay to the canal company or to its predecessor anything for the right of carrying waters claimed to be owned by Miller & Lux through the canals of the canal company, the complainant?

A. Yes.

X Q. 224. Have you a separate account of that?

A. It shows as a separate item in the books.

X Q. 225. Well, will you make an estimate—that is, a statement, rather, not an estimate, a statement of those amounts each year from 1897 that have been paid by Miller & Lux on that account?

A. There is but one item.

X Q. 226. Only one item?

A. That is all.

X Q. 227. Does that one item refer to more than one canal?

A. I don't know that. I don't know what you mean by that.

X Q. 228. Well, who claims to own what is known as the Poso canal, leading off from complainant's main canal?

A. Miller & Lux own it.

X Q. 229. They own it?

A. Yes.

X Q. 230. Well, is there an account as to the water carried through the main canal to the Poso canal?

A. Yes, the one item.

X Q. 231. Showing the amount of water?

A. Showing the amount of water received from Miller & Lux

through their Helm main canal and carried for a distance
660 of 3.2 miles, as I recollect, to the Poso canal and delivered to Miller & Lux.

X Q. 232. Miller & Lux made a payment of that kind, did they?

A. There is a charge against them on the books. They haven't paid it but they expect to pay it. However, they haven't paid it to date.

X Q. 233. When was it charged?

A. Quite recently.

X Q. 234. How recently?

A. The instructions to the superintendent were to charge it before the 15th inst. so that it should appear in this month's statement, but whether it is actually in the book now I can't tell you.

X Q. 235. When were those instructions given, Mr. Merritt?

A. Within a few days.

X Q. 236. Was that the first time in which instructions had been given?

A. Yes.

X Q. 237. Well, what were those instructions?

A. I say they were to make this charge for carrying this water, the amount of which had been ascertained by our engineering department and just reported to us.

X Q. 238. How was the water to be charged? On what was the charge based?

A. At a half a cent a second foot mile.

X Q. 239. For a year?

A. No, a second foot mile.

X Q. 240. What I want to get at is, how much would that amount to a year?

A. By a second foot we mean one foot of water flowing for 24 hours.

X Q. 241. How long? For what period of time was that charge to be made for?

A. This charge carried the water that had been carried during this year; that is to say, the year ending June 30, 1908, at certain portions of the year.

X Q. 242. Now how long has the water been carried through the complainant's canal to the Poso canal for Miller & Lux? For how many years?

A. Do you mean water that did not belong to this com-
661 pany?

X Q. 243. Yes.

A. That was carried for Miller & Lux?

X Q. 244. Yes.

A. This year.

X Q. 245. Was this the first time that it has ever been carried to the Poso canal?

A. Yes.

X Q. 246. Are you sure of that?

A. Quite sure of that, that this is the first time we have ever made such a charge.

X Q. 247. What I asked you was, how long the water had been carried. This is the first time that you have made a charge. I can believe that. But how long now has Miller & Lux' water been carried through the main canal or any portion of the main canal of the complainant company and delivered to Miller & Lux at the head of their Poso canal?

Mr. TREADWELL: Do you mean water that they had not paid us for? Is that what you are referring to?

Mr. LANGHORNE: Read the question.

(Question read.)

A. I don't know that Miller & Lux have ever delivered any water to the canal company to be carried at all since the judgment in the Stevenson case was rendered, and there has been no record from which we could make a charge until this year. We intended to have made a charge last year but our records were not in shape to make it. So far, we have not been able to get any data from which we could make a charge.

X Q. 248. When was the Poso canal built?

A. Oh I don't know.

X Q. 249. This complainant canal company does not claim to own that canal, does it?

A. The Poso canal?

X Q. 250. Yes.

A. No indeed.

X Q. 251. You have been connected you say since 1883 with Miller & Lux and also with this corporation?

A. Yes, and they have built lots of canals that I didn't know anything at all about until afterwards.

662 X Q. 252. Don't you know, Mr. Merritt, that this Poso canal has carried water for Miller & Lux for many years?

A. Yes.

X Q. 253. Don't you know that it has been used for carrying water for a long time for them?

A. Yes.

X Q. 254. Don't you know whether it has been carrying complainant's water and Miller & Lux' water, the complainant's water being delivered for irrigation to Miller & Lux as a rule?

A. Of course there was stock water delivered. It is one of the principal canals used by Miller & Lux to irrigate their Poso farm and other lands, and has been used for many years, and the water that has been carried through the canal for irrigating those lands has been charged to Miller & Lux, for I don't know how many years.

X Q. 255. That was on the theory that they were waters belonging to the complainant and sold to Miller & Lux?

A. Yes.

X Q. 256. Sold to them at the head of Poso canal?

A. Yes. Well, say delivered to them at the head of Poso canal, yes, that is true, until we began to sell water by measurement through this other canal, and we delivered it to them there.

X Q. 257. Now I understand you to say that the canal company

first commenced to carry Miller & Lux' water in complainant's canal and to deliver it into the Poso canal for Miller & Lux——

A. We intended to charge for it last year, that is, the year ending June 30, 1907, but we could not arrive at a statement of facts with regard to the carrying of that water, and have so far made no charge for it.

(By Mr. TREADWELL:)

X Q. 260. That is for the first year?

A. For the first year. We have made a charge for the carrying of that water during the year ending June 30, 1908.

(By Mr. LANGHORNE:)

X Q. 261. Why could you not arrive at the fact?

A. Because our engineering data was defective. We had expected it to be kept up, but the man who was there kept the
663 records in such shape that we could not make anything out of it after it was done.

X Q. 262. Now is there any other water belonging to Miller & Lux or to Mr. Henry Miller which is being carried by the canal of the complainant?

A. One of the contracts with Miller & Lux recites that Miller & Lux have a right to use the surplus water for their land, for their uncultivated lands, and surplus water has for many years been delivered to them and no charge has been made for it. By surplus water we mean water that has been taken into the canal and for which there is no demand and we have to get rid of it somewhere, and by contract with Miller & Lux, we can place the waste water on their lands and it flows over their uncultivated lands and so back into the river, and that water in a sense may be considered their water, because as riparian owners they would have a right to divert that water on their lands themselves. But we never have called it their water so far as I know. We simply have this agreement with them that we shall be permitted to turn our surplus water, for which there is no other demand and which we have got to get rid of out of the canal, we shall turn it out on their lands and then it flows over their uncultivated lands.

X Q. 263. You have seen on some of their uncultivated lands where they were checked off, have you not?

A. What is that?

X Q. 264. You have seen it all checked off, to be irrigated?

A. No I have not.

X Q. 265. You have not?

A. No.

X Q. 266. Don't you know as a matter of fact that a great deal of it is checked off?

A. There is no doubt that there are some big checks there in those uncultivated lands, but the checking off does not make
664 it cultivated lands. They are at liberty to do anything they please in that way, to make the best use of the water that comes to them; but it is uncultivated land.

X Q. 267. Uncultivated, but nevertheless a great deal of it is checked, is it not?

A. I don't know.

X Q. 268. Isn't there about 40,000 acres of that land?

A. That is more than I can tell you.

X Q. 269. Now is there not some water, Mr. Merritt, carried through the company's canal from the headworks to the Dos Palos canal and carried there for Miller & Lux or for Mr. Miller?

A. On an acreage charge.

X Q. 270. I don't ask you anything about the charge. I asked you whether there was not some water that they claimed.

A. No, not that I know of.

X Q. 271. Is there any charge made against Miller & Lux, or against Mr. Miller, for carrying any of their waters through the canals of the company from the headgates and delivering them through the Dos Palos canal?

A. No.

X Q. 272. No charge on the books?

A. No.

Mr. TREADWELL: We object to that question on the ground that it assumes that the water is carried there.

(By Mr. LANGHORNE:)

X Q. 273. In the first place, do you know that any water is carried by the canal company's canal down to the Dos Palos canal and delivered in that manner—water that is claimed by Miller & Lux, or by Mr. Miller?

A. I don't know.

X Q. 274. Will you look at this map, Exhibit 2. You see a line just above the main weir or dam in the San Joaquin river that makes up on the south bank of the river and then runs along the river for quite a distance, for several miles?

A. Yes.

X Q. 275. Do you know what that is?

A. That canal that makes out of the river is the Helm canal. Whether this follows the bank of the river that is known by
665 that name, I am not certain. I think not. I think the Helm canal—I think the name "Helm canal" is applied to the part that heads in the river and ends in this company's canal lower down.

X Q. 276. You are speaking of the new canal that has been constructed there lately, are you not, now?

A. Well it was some years ago.

X Q. 277. Well it has been constructed within probably the last four or five years, has it not?

A. That was originally constructed before that. It was near that, I think about that time. Perhaps the connection with the canal was made at that time.

X Q. 278. Well, that canal that you call the "Helm canal" is not shown on this map at all, is it?

A. I take it that it is. I take it that that line there (pointing)

is intended to represent the Helm canal. (After examination.) You are right. The Helm canal is not shown on that map. That is the Helm canal, embracing this little piece here which diverts the water from the river.

X Q. 279. Mr. Merritt, what you call the Helm canal, I ask you if it is not quite a large canal that has been constructed within the last five years by Miller & Lux?

A. Yes.

X Q. 280. And its outlet from the river is just south from the main dam, is it not?

A. Yes.

X Q. 281. And it runs parallel with the main canal of the complainant nearly to the Firebaugh outlet, does it not?

A. No, it is three miles or more from there.

X Q. 282. Oh, you are mistaken.

A. Oh, originally built.

X Q. 283. Originally built and within a short distance this side, that is, south of the Firebaugh outlet, it is dammed up and made to turn into the complainant's canal? Is not that so?

A. Well that point where it discharges into our canal is three miles from the head of the Poso.

666 X Q. 284. Is there any charge against Miller & Lux by the complainant canal company for the use of the main weir or dam to divert the waters into what you call the Helm canal?

A. Yes. I am not sure that it is on the books yet.

X Q. 285. Not on the books yet?

A. There is an agreement to make it, and it will be made before the books are closed for the year, if it is not already made.

X Q. 286. How long have Miller & Lux been using the Helm canal to divert waters from the San Joaquin river?

A. I should think about three years or four.

X Q. 287. And no charge has been made on the books against them on that account up to date?

A. Why no, because we have charged them for the irrigation of the lands that they irrigated. We could not charge them for carrying the water and for irrigating the lands, too.

X Q. 288. You mean this water in the Helm canal is claimed to be owned by Miller & Lux?

A. It is in certain stages of the river when——

X Q. 289 Well, the water that is carried in the canal, which they claim to own—they claim to own that water, do they not?

A. Provided it is diverted from the river at such stages as the canal company cannot divert it. That is to say——

X Q. 290. When did you last see the headworks of this canal?

A. I suppose about a year ago.

X Q. 291. Do you mean to say that there is any stage of the San Joaquin river that is south of the main dam when this complainant cannot divert water into its main canal from the river in the Fresno Slough, and that Miller & Lux can divert it from the Helm canal?

A. You misunderstand me. Of course I should have said "legally

diverted." The only time when Miller & Lux are permitted
667 to divert water——

X Q. 292. If you will just answer my question, yes or no, probably we will get along better.

A. All right.

X Q. 29½. That Helm canal has been built about how many years?

A. I don't remember when it was built. I presume it is three or four years; may be longer.

X Q. 293. How many years has it been used by Miller & Lux at any time of the year to divert waters?

A. I don't know that. I can't remember now when that was done.

X Q. 294. You keep all the books, do you not?

A. No.

X Q. 295. You have charge of all the books?

A. Yes.

X Q. 296. You have charge of the books of this complainant company?

A. Yes.

X Q. 297. And you have of Miller & Lux, have you not?

A. Yes.

X Q. 298. Well now, is there any charge on the books of this complainant or its predecessor against Miller & Lux on account of the use of the headworks or weir of the complainant diverting water into the Helm canal?

A. I think none has been made yet.

X Q. 299. Now then, at a point south of Firebaugh, this Helm canal has an outlet into the main canal of complainant, has it not?

A. Yes.

X Q. 300. And from there, from that point down the main canal of the complainant, the complainant's canal, has carried the waters of Miller & Lux that have been turned into the Helm canal? Is not that so?

A. They have carried the waters received from the Helm canal.

X Q. 301. Those waters belong to Miller & Lux, do they not?

A. Some times.

X Q. 302. Well, sometimes they do? Well now, for the times that they do belong to Miller & Lux, has any charge been
668 made to Miller & Lux by the complainant company for carrying those waters?

A. Yes, I told you a while ago.

X Q. 303. When was that charge first made?

A. This year.

X Q. 304. What time?

A. Well, I have already testified on that, that I instructed the superintendent a few days ago to make the charge as of date the 15th of this month.

X Q. 305. That was in regard to the Poso canal I was asking you then? Now this is the Helm canal.

A. I think that we misunderstood each other, and if that is the

case I am talking about water that was received from the Helm canal and then into the Poso canal. It is the same water.

(By Mr. TREADWELL:)

X Q. 306. And carried that three miles?

A. What I said as to that matter applied to water received from the Helm canal.

(By Mr. LANGHORNE:)

X Q. 307. And for how many years has that water during any portion of the year been received from the Helm canal and carried into complainant's canal and carried by the complainant's canal?

A. There has been water received from that canal into the main canal at various times for probably three years, although I can't speak positively as to the period. But we have never recognized it as Miller & Lux' water and have treated it as our own water and charged them for the irrigation of their lands with that water until this year.

X Q. 308. Did you keep a separate account of that?

A. A separate account of that water?

X Q. 309. Yes.

A. No.

X Q. 310. Did you keep a separate account of the lands of Miller & Lux that were irrigated by that water?

A. No.

Q. 311. Then how could you arrive at what to charge Miller & Lux on that account?

669 A. We charged them for all the land that they irrigated with water delivered to them from our canal prior to this year.

X Q. 317. Now, then, coming back to this map, this little line that I spoke to you about a little while ago, indicating a canal, a small canal making out from the south bank of the San Joaquin river just south of the main weir or dam, and leading off along the bank of the river. Do you know anything about that?

A. I am not sure about that.

X Q. 313. Do you know what that is called?

A. I think they call it the River canal. I am not sure what the local name is. Miller & Lux have a name for it.

X Q. 314. Does that belong to Miller & Lux?

A. Yes.

X Q. 315. Don't you know that it irrigates a large section of country lying along its course here, as shown here? Have you ever been along there?

A. No I have never been along there. I have seen it from the road here. I have never followed it down.

X Q. 316. Don't you know that it has a capacity of about 80 cubic second feet?

A. No, I don't know its capacity.

X Q. 317. Has Miller & Lux paid the complainant canal company or its predecessor anything on account of waters diverted into that small canal by the weir or dam of complainant?

A. I am not certain as to that.

X Q. 318. Well you know, do you not, Mr. Merritt, the different accounts in the books?

A. Yes but we have not any account in the books that will show whether or not the acreage that was charged to Miller & Lux was irrigated from that particular canal or not. The superintendent would have to reply to that.

X Q. 319. Do you know how long that small canal has been taking water from above the weir of the complainant's canal?

A. Not definitely.

670 X Q. 320. Has it not been a long time?

A. Some years.

X Q. 321. For at least 20 years, has it not?

A. I don't think so. I am quite certain not. But still, as I say, I don't know when it was constructed because I have no personal knowledge as to those matters of construction of Miller & Lux' ditches. Those are not matters that the city office takes cognizance of.

X Q. 322. Do you know what water rights are claimed by Miller & Lux in what is known as the Chowchilla?

A. I know something about that.

X Q. 323. Do you know whether they ever bring the water they claim, or any portion of it as to the Chowchilla ditch—ever bring it down and carry it through the canal of the complainant for any distance?

A. No.

X Q. 324. You don't know then that they ever made their claim that they have a right to do that, and have done it?

A. To carry the water that is appropriated for the Chowchilla canal?

X Q. 325. Yes.

A. And carried into our canal?

X Q. 326. Yes.

A. I never have heard it before.

X Q. 327. You never have heard it before?

A. No.

X Q. 328. Have you a map in your office, or maps, of lands of Miller & Lux in Fresno county and in Merced county—of the lands of Miller & Lux?

A. Yes.

X Q. 328. And in Stanislaus county?

A. Yes.

X Q. 329. Showing all their lands?

A. You are speaking now of the irrigated lands?

X Q. 330. Well, of their lands generally.

A. Well, am I testifying now for Miller & Lux or for the canal company?

X Q. 331. I don't know which you are testifying for?

A. Well you asked me if I had maps. Now whose maps? Miller & Lux' maps or the canal company's maps?

671 X Q. 332. Well either one. It don't make any difference. Has the canal company got maps of the land irrigated?

A. The canal company——

X Q. 333. You have such a map have you?

A. The canal company has a plat book showing the irrigable lands under it.

X Q. 334. Why didn't you bring that into court in this examination?

Mr. TREADWELL: We object to that on the ground that it is not a proper question. It don't make any different why he did or did not. He will bring anything here that is required by either party.

The MASTER: Your question applies to the motive of the witness. There has been no request for him to produce it. I presume it will be produced if asked for. I sustain the objection to that particular question.

(By Mr. LANGHORNE:)

X Q. 335. Will you produce the maps of the irrigated lands and so on, that the canal company has?

A. I will.

Q. 336. Can you discover from those maps the irrigated cultivated lands of Miller & Lux?

Mr. TREADWELL: I don't know what that means. The maps will speak for themselves. When they are produced if counsel wishes to ask the witness whether he knows whether the maps are correct or not, he can do so.

(By Mr. LANGHORNE:)

X Q. 337. Is there any data in your office Mr. Merritt, which would show the uncultivated lands of Miller & Lux that use what you call surplus water from the canal?

A. No, I had a plat showing those lands for the year 1904, that used water on uncultivated lands and paid for it at the rate fixed by the company for such irrigation, but I have lost the map in the fire and so far have been unable to get any data that would replace it.

672 X Q. 338. You have I suppose an item in your books somewhere, showing the amount that was charged per acre, have you not, for that in 1904?

A. Oh yes, I have the minute book, that is, the records of the meeting at which that rate was adopted.

X Q. 339. Well we can arrive at the acreage probably if we can get the amount that you charge Miller & Lux.

A. We can get the acreage from the superintendent's books.

X Q. 340. Well, we would like to have the acreage, the uncultivated lands——

A. For which they paid in 1904?

X Q. 341. For which they paid in 1904.

A. Yes.

X Q. 342. I understand that with the exception of that year Miller & Lux paid nothing further for watering uncultivated lands?

A. That is correct.

X Q. 343. Why was it they paid in that year and in no other year?

A. So as to acquire a priority of right.

X Q. 344. A priority of right over whom?

A. Anybody.

X Q. 345. Well why did they pay—you say they paid for one year and not for other years for that purpose?

A. Yes.

X Q. 346. You mean they paid, they commenced paying for that year. Is that what you mean?

A. No, they paid for that year.

X Q. 347. And with the intention of paying for no other?

A. Yes, there was no intention of continuing the payment yearly. There was no reason why they should pay for it except the one reason of acquiring the priority, and it was not necessary to continue the payment to establish that priority.

X Q. 348. Then was the priority as against a canal company or as against other parties?

A. Other parties.

X Q. 349. They wanted to fortify their position, probably as to riparian rights to the waters of the San Joaquin river? They agreed to pay the canal company for that year for these
673 waters on uncultivated lands? Is that the idea?

A. Not riparian rights, no.

X Q. 350. What then?

A. It was the priority of use of the water for the canal on those lands.

X Q. 351. On those lands?

A. Yes.

X Q. 352. How many waste ditches or ways are there on the canal from the headworks to the end in Stanislaus county?

A. I don't know.

X Q. 353. Do you know what points on the complainant's canal these surplus waters that you have spoken of are delivered from, to Miller & Lux?

A. Not all of them.

X Q. 354. What?

A. I don't know all the points.

X Q. 355. What are some of them?

A. I know some of them. The principal point is Camp 13.

X Q. 356. Is any measurement made of such surplus waters at Camp 13 delivered to Miller & Lux?

A. I am not certain as to that. It would not be necessary for my purposes, and I don't know whether the engineer has kept such data or not. I know that at times it has not been kept, but whether it has ever been kept at any time I am not certain.

X Q. 357. The telephone line along the canal is used by Miller & Lux, is it not?

A. Yes.

X Q. 358. About how long has it been used by Miller & Lux?

A. I don't know that. I suppose they have used it more or less

for—As long as I have been connected with the company, probably.

X Q. 359. Do they pay anything for that to the canal company?

A. No, they pay for their own instruments. They pay the rent on the instruments that they use.

X Q. 360. Have they ever paid anything to the complainant company or its predecessors for the use of the telephone
674 line?

A. No, they only constructed such portion of it as they use themselves, and pay for their own instruments.

X Q. 361. Well have they paid to the complainant company or to complainant's predecessor any portion of the cost of construction of the telephone line?

A. No.

X Q. 362. There is a telephone line, is there not, all along the main canal and the branches of the main canal?

A. Yes.

X Q. 363. And not all along the branches?

A. All along the main canal.

X Q. 364. The main canal and the extensions?

A. And the extensions; that is to say, there is a line from the headworks to Orristimba station.

X Q. 365. And also a line, is there not, on the outside canal?

A. No, there is not a separate line there. There is a station. There is a spur running to some of the stations.

X Q. 366. About how many miles of lines are there constructed by the complainant?

A. About 70; in that neighborhood.

X Q. 367. And that is used by Miller & Lux, is it not?

A. Part of it is, yes.

X Q. 368. What part is not used?

A. Not used by Miller & Lux?

X Q. 369. Yes.

A. I don't know of any except that part below the McPike place.

X Q. 370. Where is that?

A. That is this side, above Newman.

X Q. 371. How far?

A. Oh, it is only a few miles.

X Q. 372. Well then, you mean from the McPike place to the north end of the canal?

A. To the north end of the canal. I don't know of any use that they make of that.

X Q. 373. How many miles is that?

A. Probably a dozen miles. I don't know just the distance.

675 X Q. 374. A dozen out of 70?

A. Yes.

X Q. 375. Now you stated something about paying rent for instruments. What do you mean by that?

A. Well when we rented instruments from the telephone company they rented such instruments as they used and we rented such as we used.

X Q. 376. That is, the telephones themselves?

A. Yes.

X Q. 377. My questions have been with regard to the construction of the line itself.

A. Well, as to that——

X Q. 378. Miller & Lux did not construct the main line?

A. Did not construct the main line.

X Q. 379. And they did not pay any rent for its use?

A. No.

X Q. 380. Who furnishes water to the town of Los Banos?

A. Miller & Lux.

X Q. 381. They sell the water, do they, to the town of Los Banos?

A. Yes.

X Q. 382. And where do they get the water?

A. From the canal.

X Q. 383. From the complainant's canal?

A. Yes, principally.

X Q. 384. Do they pay for it?

A. Yes.

X Q. 385. Have you got an account for that?

A. Yes.

X Q. 386. Will you show that separately in this statement that you have?

A. Yes.

X Q. 387. What they pay for on that account?

A. Yes, that is all included in the water account that we have already rendered; the revenues from water sold to Miller & Lux and to the oil companies and to those that used water for their own irrigation purposes, are included in our account.

X Q. 388. It is so included that you can't segregate it? You could not segregate it?

A. I can segregate it. I can tell you how much the charge is per month.

X Q. 389. Now in regard to this expense account, Mr. Merritt, you have given no items of the expense as to any year. Have
676 you any items of those expense accounts?

A. Yes, I showed the items of expense grouped under certain general heads, in the statement that I rendered as to the one year, as to the year ending June 30, 1908; and the books show the Maintenance Account so segregated each year. Having lost the records for part of the time I might find difficulty in stating during the whole period, but I think I have restored the record as to the Maintenance Account.

X Q. 390. Well, you say you lost the record of your Expense Account for some years of its existence?

A. No; the journal which contained these items was charred, and it was very difficult to make anything out of it. I had the blackened leaves and we have read the items on some of those pages by dint of the assistance of a chemist and for the purposes of a previous proceeding in this case I submitted a statement of accounts so restored.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. You state that this charge against Miller & Lux for the acreage of water, during the last few days you have given directions for the entry of that charge? And I will ask you how long, about, the engineer has been at work to make up the statement in regard to that Miller & Lux account, in order that you could make that entry?

A. Perhaps two months. We started in as soon as we could after the close of the irrigation year to get that account into shape so that we could make the statement. There were other things that were more important than that, at the beginning of this new fiscal year. We were launching this new measurement system, and a whole lot of difficult questions came before us and we could not get around to this until later. Just as soon as we were able
677 to get at it, our engineers had instructions to get it up and they have done so with due diligence, but they have only just succeeded in getting it through.

(Further hearing adjourned to Friday, October 23, 1908, at 10 a. m.)

678 FRIDAY, *October* 23, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.; for defendants, J. P. Langhorne, Esq.

Redirect examination of ROBERT H. GOODWIN, recalled for complainant.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Goodwin, you were asked on cross-examination if you would prepare a statement in writing of the difference between your report of 1896 and your report of 1906 and the new work which was included in the report of 1906 which was not included in the report of 1896. Have you prepared such a statement?

A. I have.

R. D. Q. 2. I show you a document headed "Comparison of the estimated costs between the two reports on the canal and works of the San Joaquin and Kings River Canal & Irrigation Company, as made by R. H. Goodwin on June 9th, 1896, for the County of Stanislaus, and on December 24th, 1906, for the above named company", and I would ask you if that is the statement that you refer to?

A. Yes sir.

Mr. TREADWELL: I offer that in evidence in connection with the testimony of this witness and ask that it be marked "Complainant's Exhibit No. 21." (So marked.)

R. D. Q. 3. Does that statement, Mr. Goodwin, correctly state the new work which is in the report of 1906 and which was not covered by the report of 1896?

A. Yes sir.

R. D. Q. 4. So if I understand page 5 of this comparison, there is $548,513.09 the estimated value of certain canals and structures in the report of 1906 which were not covered in any way in the report of 1896?

A. That is the amount, yes. That is correct.

R. D. Q. 5. Then in the report of 1906 there is shown
679 $164,8— which represents the increased cost of construction of works which were included in the report of 1896 owing to the different prices you allow for labor and materials in 1906?

A. Yes sir.

R. D. Q. 6. In getting up this comparison, Mr. Goodwin, did you also make a detailed comparison, going through both of the reports in detail?

A. Yes sir.

R. D. Q. 7. Every structure and every item?

A. Every structure and every item.

R. D. Q. 8. And in order to get up these details did you get the difference in value of each particular structure and then total it and make it balance?

A. I did.

R. D. Q. 9. On the second page of the comparison you take the difference in freight in 1906 and 1896. You don't include there, do you, the matter of hauling?

A. No I do not; merely the fixed charges.

R. D. Q. 10. In giving your estimate of the cost of building these works, did you or did you not consider that the works might be built by the company itself and under its own superintendence rather than by contract?

A. I took it for granted that the company would build the works; yes sir.

R. D. Q. 11. That is as I understand you. You did not allow anything in the way of contract profit to the contractors unless it would be represented in the items of general superintendence which you allowed the company?

A. No; I didn't allow any contractors' profits. The item of general superintendence would cover that.

R. D. Q. 12. So that if I understand you, the value or the cost that you put on, of the building of these works, would be the cost that it could be done for if the company did it itself, having the requisite force, or if it were done by a contractor?

A. It would cover either way, yes.

R. D. Q. 13. You mentioned a contract sometime in 1891
680 or so, for earthwork, something in the neighborhood of 7 cents, I think, and you stated that the contractor didn't go to Europe after that. I suppose the parties understood what you meant, but what did you mean by that?

A. He failed.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. Mr. Goodwin, in your estimate of December, 1906, you have an item of earth excavation of main canal in Fresno county, of 732,900 cubic yards. I will ask you if that item included excavation of the main canal which runs through what is known as China Slough from near the headworks of the canal to the Firebaugh waste?

A. Yes, it certainly included that.

R. X Q. 2. How much excavation, how many cubic yards of excavation did you estimate as to that portion of the canal occupying what was China Slough from near the headgate to the Firebaugh waste?

A. That is on the main canal?

R. X Q. 3. That is on the main canal?

A. I don't think I have those figures, but I can give you the items that I took in the field. At about 4000 feet below the headgate, that would be the headgate on the main canal, to the railroad bridge near Firebaugh's, it has been widened about 20 feet, equal to 80 feet across. That is all the notes that I have.

R. X Q. 4. Can you give me how many cubic yards you estimated on as having been excavated in that portion of the canal that occupied China Slough that I have mentioned?

A. I think that would be Station 40. Do you understand the position of that?

R. X Q. 5. Yes.

A. It was an old slough, and in the estimate of 1897 it was a slough, and so there was no earthwork in it. In 1906, we had dredged it, or rather, widened it, and that is, of course, in the earthwork, included in the main canal. I don't know the number of the station that it stopped at. It commenced at about Station 40.

681

R. X Q. 6. You can give that?

A. I can give that approximate item.

R. X Q. 7. That is included in this item 732,900 cubic feet that I have read from your report?

A. Well I presume so. Yes, it would be included in that.

R. X Q. 8. Now was that slough widened 30 feet all the way from near the headgate to the bridge you have spoken of?

A. Not from the headgate.

R. X Q. 9. Not all the way, was it?

A. No, at a point about 4000 feet.

R. X Q. 10. Now then, that is a very deep slough—always has been—is it not, Mr. Goodwin—China slough?

A. Yes.

R. X Q. 11. As a matter of fact it never has been necessary to dredge that slough in order to let down at least 1200 cubic feet per second of water, has it?

A. I didn't examine into that.

R. X Q. 12. You saw that part of the canal in 1896, did you not, and made an examination?

A. I did.

R. X Q. 13. You are familiar with it?

A. Well, fairly well. It is a long time ago.

R. X Q. 14. Now I will ask you whether or not the dredging of China Slough, or the widening of China Slough—which has been done since 1896, has it not?

A. Yes.

R. X Q. 15. — whether that was necessary to carry 760 cubic feet per second of water?

A. Well, there is a question in there that the depth of that slough don't count much.

R. X Q. 16. Read the question, Mr. Reporter. (Question read).

A. No it is not.

R. X Q. 17. I will ask you whether or not the canal from the headworks down to the parallel, at the head of the parallel canal, was not capable of carrying 1000 cubic feet per second of
682 water before the dredging and widening you have spoken of, that has occurred since 1896?

A. Well I would have to figure that out as to the thousand cubic feet. I have never figured it out, the exact carrying capacity of that canal. I could not state whether it would be one thousand cubic feet or eight hundred cubic feet.

R. X Q. 18. Will you figure it out then, what that canal, the main canal, was capable of carrying, the amount of water that it was capable of carrying down to the parallel canal before the widening and dredging that has occurred since your report of 1896? You have made an estimate, then, of the excess of the work here since 1896? That is in that portion of the canal I have mentioned. Now if you have been able to make that estimate, then you must know what the capacity of the canal was before this excess work was done. Is that not so?

A. Not necessarily in the value of the works there, without knowing what quantity of water comes into it.

R. X Q. 19. Well, I am not talking about the capacity of the canal, the cross-sections, &c.

A. I have the cross-sections but I don't believe that I can give the number of cubic feet that would run there. I haven't got the grade.

R. X Q. 20. I know you would have to have the grade. I understand you to say that without that excess work in that portion of the canal that then in your opinion it would carry some 760 cubic feet per second?

A. Yes.

R. X Q. 21. Don't you think it would carry more than that?

A. Possibly, but I am not able to state about that.

R. X Q. 22. Now then, you can, however, let me know the amount of excavation that you figured on in your report of 1906, in that portion of the canal that occupies what was China Slough, down to Firebaugh waste? You can do that, can you not?

A. I can, approximately; close enough for estimating purposes.

R. X Q. 23. Can you do that right off?

683 A. I could not do it right offhanded. It would take me a few minutes, I think. (After figuring). Approximately 100,000 yards.

R. X Q. 24. What is the scale on that map, Exhibit 2?

A. A mile to the inch.

R. X Q. 25. Now then, in Exhibit 21, on page 5, Mr. Goodwin, you have designated a canal under the name of Drain Canal. Where is that canal, the Drain Canal?

A. Do you want the exact location?

R. X Q. 26. Yes, just about where it commences.

A. It commences at one of the outlet canals. Whether it is No. 1 or No. 2 I don't remember. It then runs along the west side of the main canal to Los Banos creek.

R. X Q. 27. That would be on the right or left hand, going to the foot of the canal?

A. That would be on the left, going down the canal.

R. X Q. 28. The left side?

A. The left side, yes.

R. X Q. 29. What you might call south of Los Banos there are three or four bridges, are there not, over the canal?

A. I think my report will state what they are.

R. X Q. 30. You remember the bridges that these roads run over?

A. Yes I remember the bridges.

R. X Q. 31. They are the only bridges across the canal in that vicinity, are they not?

A. At Los Banos?

R. X Q. 32. Yes sir.

A. Yes.

R. X Q. 33. Did you include those bridges in your report?

A. I did.

R. X Q. 34. Do you know which of those bridges are county bridges, built by Merced county?

A. I do not.

R. X Q. 35. Did you make any inquiry in regard to that?

A. I did not.

R. X Q. 36. Did you ask about those bridges at all?

A. I did not.

R. *D.* Q. 37. But included them as though the company

684 had built them?

A. Yes sir.

R. X Q. 38. There are three of those bridges, are there not?

A. Well I don't remember, but I presume there would be, over each canal.

R. X Q. 39. What I mean to say is, the three roads running out of Los Banos, at the crossing of each one there is a bridge across the canal?

A. My memory don't serve me.

R. X Q. 39½. Can't you remember that?

A. I can't place them, but I think the report is complete in itself, as far as the number of stations are concerned.

R. X Q. 40. I understand then, Mr. Goodwin, that in your Exhibit 1 you have included all bridges over which roads ran across these canals? Is that correct?

A. Yes sir.

R. X Q. 41. And that you made no inquiry and do not know whether those bridges were constructed by the county or by the canal company?

A. No sir, I do not.

R. X Q. 42. Or whether they are maintained in condition by the counties or by the canal company?

A. No.

R. X Q. 43. But you put that all in, did you?

A. Yes sir.

R. X Q. 44. Through the entire course of the canal?

A. Yes sir.

R. X Q. 45. Now, as a matter of fact, when you made your examination you observed that as to a number of these bridges, they were bridges carrying upon the line of roads, traveled roads, did you not?

A. I did.

R. X Q. 46. If you should go on the ground again with your Exhibit 1, you could locate, could you not, each one of these bridges, that is, that carry roads across the canal?

A. Yes sir.

R. X Q. 47. I would like for you to do that if you can. I ask you to do that as a part of your cross-examination. And in connection with your direct examination on Exhibit 1, I ask that you identify upon Exhibit 1 the several different bridges which are used
685 for roads across the canal. If you can't do that without going on the ground with Exhibit 1, then I ask that you do that. That is all.

686 Cross-examination of CHARLES Z. MERRITT (resumed).

By Mr. LANGHORNE:

X Q. 391. Mr. Merritt, you were a witness in the former case brought by complainant's predecessor against Stanislaus County, were you not?

A. I was.

— Q. 392. Now in regard to this Tulare Lake canal, the up canal lake matter, you were examined in regard to that matter, were you not?

A. I was.

X Q. 393. Now I will read the following questions asked you by Mr. Stonesifer, the solicitor for defendant in that case, and your answers at that time, as follows:

X Q. 27. Mr. Merritt, you stated in your previous cross-examination that the only charge for construction on the Tulare Lake canal that you have been able to find, was the sum of $9026. Do you find that from any of the account books of the company?

A. I am not positive what you refer to. Do you refer to some amounts by Mr. Stangroom?

X Q. 28. Yes. You took those figures from the report of Mr. Stangroom, in 1872. You cannot find any such item, can you in the account books of the company?

A. They are in the account books of the company in the sense that they were part of Mr. Stangroom's reports which were entered into the books, but they do not appear*ed* segregated in the books of the company as charges against the Tulare Lake canal.

Did you so testify, Mr. Merritt, at that time?

A. I have no doubt that I did.

X Q. 394. Now I think it is only fair to you to put in everything that you said about that matter, and I will ask you further if you testified as follows:

X Q. 29. It is, of course, charged up in the books, but it is not charged up against the Tulare lake canal, is it? It is charged up in the Construction Account from where?

A. Yes, sir.

X Q. 30. Does the construction account show any items that were for the construction of, or expenses incurred in the Tulare Lake canal?

A. Will you repeat that question, please?

(The reporter reads the previous question).

A. Do you mean to ask whether there is an account in the company's books showing the cost of construction of the Tulare Lake canal, or whether there is any separate item in the San Joaquin canal account which is evidently an item of construction in the Tulare Lake account. Those are two different things, and I do not know which you mean.

687 X Q. 31. The San Joaquin Canal account that you have mentioned there did not exist at this time, did it?

A. Not in that form. The elements that make the San Joaquin account up existed, as far as they had accrued at that time.

X Q. 32. Under the head of Construction Account?

A. Yes sir.

X Q. 33. But the San Joaquin Canal account by name did not at this time, in 1871, 1872 and 1873, appear upon the books of the company?

A. No sir. That was a later name.

X Q. 34. The Construction Account was carried on and all items of construction proper were charged up in that account, up to a certain date, were they not? What is that date, if you remember?

A. I think I have it here. (After examining book). On December 10, the Construction account was transferred to the San Joaquin Canal account.

Mr. TREADWELL:

Q. Of what year?

A. 1877.

Mr. STONESIFER:

X Q. 35. So that the first appearance of the San Joaquin Canal account was in 1877?

A. Yes sir, as such.

X Q. 36. And up to that time all the proper items of construction appear in the Construction account?

A. Or Collateral accounts that should be closed into that.

X Q. 37. As you have previously mentioned?

A. Yes sir.

X Q. 38. Is there any segregation of the expenses incurred in the Tulare Lake account from the expenses incurred in this canal from Los Banos to the dam?

A. Yes sir. There is a Tulare Lake canal account, which was opened on May 26, 1875, and into that account, if I am not mistaken, there was carried something for work done previous to that date. But how far the secretary was successful in segregating the Tulare Lake Canal items from other items and putting them into this account, I do not know.

X Q. 39. That account was opened, then, in 1875?

A. Yes sir.

X Q. 40. As appears from the books?

A. Yes sir.

X Q. 41. Previous to that time does it appear from the books that there was any segregation of the accounts of the Tulare Lake canal from this San Joaquin canal, as we call it, that is the canal from Los Banos to the dam?

A. No sir.

X Q. 42. Then where did you get this item of $9026 that you have testified to as having been spent on the Tulare Lake canal?

A. From Mr. Stangroom's accounts.

I will ask you, Mr. Merritt, if you were asked those questions and made those answers at the time?

A. I have no doubt that I did.

X Q. 395. Now before I go into the matter of acres irrigated and Maintenance, I would like to ask you a few questions on cross-examination on other matters. Does the complainant, or did its predecessor carry any waters through any portion of its canals that was owned or claimed to be owned by Mr. Henry Miller or by any corporation which he was connected with?

A. You mean any water that was owned by them or any canal that was owned by them?

— Q. 396. Well, water. That is, would the water that they claimed to own, or owned, you understand, be carried into
688 any portion of complainant's canals and then be delivered to Mr. Miller or to any corporation?

A. That was never done until the year beginning July 1, 1907. During the year from July 1, 1907 to June 30, 1908, there was water received from the Helm canal which it was understood belonged to Miller & Lux, and it was carried for them for a consideration and delivered to them.

X Q. 397. Now in regard to Mr. Henry Miller himself, how about that, any water that he owned?

A. I know of no water that Mr. Henry *Water* personally owns.

X Q. 398. Now this water that you say was carried through the

Helm canal and then into the company's works, you say that that was delivered in the Poso canal?

A. Yes.

X Q. 399. Now is not what you call the Helm canal a very much larger canal than the Poso canal?

A. I cannot speak definitely, but I should not wonder if that were true.

X Q. 400. Have you see- them?

A. I have seen them, but I have not seen them with reference to making such a comparison, so I don't really know.

X Q. 401. Is it not a matter of fact that the Helm canal has a capacity of at least six or eight times that of the Poso canal?

A. It is possible, but I am not certain on that point.

X Q. 402. Do you know, Mr. Merritt, the capacity of any of these canals?

A. No.

X Q. 403. You have never had occasion to find out what they were?

A. No.

X Q. 404. This company, the California Pastoral & Agricultural Co., I believe is owned by Mr. Miller, is it?

A. No, he has no interest in it at all.

X Q. 405. What company was it you said was owned by him? The Los Animas and San Joaquin Land Company incorporated, where do the lands of that company lie?

A. It has lands both on the east side and on the west side of the San Joaquin, and scattered around in various places; some
689 lying above the head of the company's canal and some lying below the head of the company's canal.

X Q 406. And some that are capable of being irrigated from the company's canal?

A. Yes, it has land that is capable of being irrigated. They are all under lease to Miller & Lux, however, and we deal with Miller & Lux in the matter, and not with the Los Animas company.

X Q. 407. And does the Los Animas company claim to own any water rights?

Mr. TREADWELL: We object to that as incompetent, irrelevant and immaterial, what they claim.

The MASTER: I don't see the materiality of it at present. I sustain the objection.

Mr. LANGHORNE: We take an exception.

X Q. 408. Are there any waters which are claimed by the Los Animas company or owned by them, which are carried through any portion of complainant's canal?

A. We have no knowledge of any water owned by the Los Animas company and never carried any for the Los Animas company.

X Q. 409. I understood you to say yesterday that you did not know of any waters belonging to any person other than the complainant, that were carried through the complainant's canal and delivered into the Dos Palos canal? Is that so?

A. I so testified.

X Q. 410. Now in your testimony in direct examination you gave an estimate for a number of years as to the amount of money that Miller & Lux saved in water rates by not paying to the company the water rates charged by the company to other persons. You gave a list of that?

A. I did.

X Q. 411. And that list you brought down, Mr. Merritt, to and including 1901. What was the amount of money of that character for the year 1902?

A. I think if you refer to that statement you will find that
690 you are mistaken as to the date to which I carried it, ending June 30, 1903.

X Q. 412. Have you the amount that was paid by Miller & Lux to the canal company for irrigating uncultivated lands, or the use of water on uncultivated lands for 1904?

A. I have not been able to get those figures for you.

X Q. 413. Was that matter of the payment for uncultivated lands in 1904 passed upon by the directors of the canal company?

A. Well I hardly know what you mean by that. The directors of the canal company made a rate open to any of them who chose to apply for it, for the irrigation of uncultivated lands.

X Q. 414. When was that?

A. In 1904.

X Q. 415. Then the directors did make a rate?

A. The directors made an open rate, and under that rate Miller & Lux applied, as anyone else could have applied, for the irrigation of uncultivated lands and did have under irrigation an area of uncultivated lands.

X Q. 416. Have you those minutes of that meeting?

A. I have, at the office.

X Q. 417. Will you please produce them?

A. I will.

X Q. 418. There was no contract made at that time, was there, between Miller & Lux and the canal company?

A. No sir; they simply made application for water for irrigation for that purpose.

X Q. 419. That is, in response to this resolution that you speak of, of the directors?

A. Well I don't know whether I would say in response to it. The directors adopted a rate for specific purposes, a special rate, and Miller & Lux applied for irrigation under that rate, for uncultivated lands.

X Q. 420. Now yesterday you were asked about deeds and were to produce a memorandum in regard to deeds of the right of
691 way of Miller & Lux to those canals and so on. Have you got that?

A. No.

X Q. 421. Is it not a fact, Mr. Merritt, that the greater part of that right of way was donated to the canal company?

Mr. TREADWELL: We object to that as incompetent, irrelevant and immaterial, whether they were donated or how they got them.

The question is to determine the value of them. How they got them or what they paid for them is entirely immaterial in this inquiry.

The MASTER: I overrule the objection.

Mr. TREADWELL: We take an exception.

A. During the time that I have been connected with the company it is true that there was no money consideration for a larger part of the deeds of right of way.

(By Mr. LANGHORNE:)

X Q. 422. Is it not a fact, Mr. Merritt, that Miller & Lux, when they were a partnership, gave to the canal company a right of way through their lands in Fresno, Merced and Stanislaus counties?

Mr. TREADWELL: We make the same objection.

The MASTER: The objection is overruled.

Mr. TREADWELL: We take an exception. It will be understood that all testimony as to what the company actually paid for its right of way will be subject to the same objection, ruling and exception already given?

Mr. LANGHORNE: Yes.

X Q. 423. Miller & Lux paid the company a subsidy?

A. I understand that they did.

(By Mr. TREADWELL:)

Q. I wish to ask the witness, if they did, was it in writing?

A. It was.

Mr. TREADWELL: We object to the witness testifying as to the contents of that writing on the ground that the writing itself is the best evidence.

692 (By Mr. LANGHORNE:)

X Q. 424. Is it not a fact, Mr. Merritt, that the canal of complainany in the county of Fresno, when it was built, ran entirely through the lands of Miller & Lux?

A. I am not prepared to answer that question without a careful examination of the records. It is quite probable.

X Q. 425. And in Merced county it ran entirely th-ough the lands of Miller & Lux?

A. I am not sure as to that.

X Q. 426. But is it not true that for the most part it ran through their lands?

A. You are referring to the section known as Los Banos creek?

X Q. 427. Yes, I am referring to the section known as Los Banos creek.

A. It is probably true.

X Q. 438. And quite an extent beyond that? Is that not so?

A. To some extent. I don't know without an examination of the records, just to what extent.

X Q. 429. Now in regard to Stanislaus county, is it not a fact that

most of the right of way there has been donated to the canal company by the owners of the land?

A. It is a fact, as I have before stated, that so far as my knowledge goes, the company has seldom paid a cash consideration for its right of way used.

X Q. 430. You can state on examination of your books and say on what they have paid for right of way, can you not—that is, where they have bought it from other persons?

A. I presume I can by taking sufficient time to go through my records.

X Q. 431. Are you sufficiently familiar with the subject now to state whether more than a mile of right of way of the company was purchased by them with money?

A. I am not in a position to state without an examination of the records.

X Q. 432. Will you please examine the records and let us know how much of the right of way of the canals has been paid for by the canal company in money or other consideration?

A. If I have to do it, I will, but unless I have to I don't
693 know, because it will be a big job.

X Q. 433. Have you got the statement about the irrigated lands, the amount of cultivated lands irrigated, and how much of those Miller & Lux have irrigated, and the uncultivated lands?

A. I have not the statement of the acreage irrigated of Miller & Lux. Men are working on it now. It is quite a job to get it up because we have to go back into the old Miller & Lux vouchers, which are not assorted yet, since we moved down to the new office, and it takes quite a good deal of time to fish them out and tabulate them. I can't make it from my own records because they were lost.

X Q. 434. You have given a summary of expenses for maintenance of complainant's canal for the year ending November 25, 1906, $87,669.75?

A. Yes.

X Q. 435. Have you the items going to make up that expense for that year?

A. They are stated of course in the company's books and also in the affidavit that I made in a previous proceeding.

X Q. 436. Well will you please produce the items or a statement of the items going to show that fully.

A. Do you wish me to read them into the record?

X Q. 437. Yes.

A. Yes. (Reading:)

Canal cleaning	$13,747.14
Damage Claims	631.34
Drain Syphon	366.38
Dredge Operating	6,673.27
General Expense	1,878.35
Expense S. F. office	998.02
Rent S. F. office	320.00
Horses and Feed	3,858.73

Household furniture	319.68
Labor	13,242.81
Legal Expenses	21,144.90
Lumber and Piles	1,704.55
Repairs to Headworks	764.59
Salaries	6,385.00
Subsistence	5,378.63
Taxes	8,095.69
Telephone Inst. and Exp.	311.55
Vehicles and Harness	386.39
Measuring Boxes	240.48
Water Rate Contest	1,232.25
	$87,669.75

694 X Q. 438. That item of dredge operating, $6,763.27, does that include the expense of dredging China Slough near the headgate to the Firebaugh waste?

A. I think that was done during more than one year. They were engaged during the time that this item accrued, on that work. Just what portion was done in the period reported for, I cannot state.

X Q. 439. You don't know then whether this item "Dredge Operating" includes any dredging outside of the dredging of China Slough, or that portion of the canal that occupies a part of China Slough?

A. It is not outside of that, I am sure. All of this work was done on that piece of canal. The only point that I was making was that it does not represent the whole cost.

X Q. 440. And the item of "Labor" there, of $13,242.81, how much of that is properly chargable to Dredge Operating?

A. None of it to Dredge Operating. All the labor of operating the dredge went to that account.

X Q. 441. What was that one item of "Labor, $13,242.81." What was that?

A. That was the labor on all the systems of the canal.

X Q. 442. Then the first item here, "Canal Cleaning, $13,747.14" does not that item include the item of labor?

A. Oh, there is labor in that cleaning item, but the labor that is in the cleaning item is not in the labor item. The labor item simply means labor on the canal which was not charged to any other special account, like "Dredge Operating" or "Canal Cleaning;" and whenever a special account was kept to show the cost of a particular piece of work the labor for that work, that was involved in that work, went to that special account and not to the general Labor account.

X Q. 443. Now the item there "Legal expenses, $21,144.90." Will you give me the items of that?

A. I can't give it to you now. I shall have to refer to the records. You have already asked me to furnish you wish such a memo-

695 randum and I shall do so as soon as I possibly can.

X Q. 444. You have not that on hand then?

A. Oh no.

X Q. 445. You have an item of "Sustenance?"

A. It should be "Subsistence." It is a misprint.

X Q. 446. What is subsistence?

A. Subsistence is the cost of subsisting the men employed by the canal company.

X Q. 447. That is, you paid them wages and they were found by the company? Is that it?

A. Yes.

X Q. 448. Now you have there "Taxes, $8085.69." Have you the tax receipts showing that?

A. Yes, in the office.

X Q. 449. I suppose you are not able to testify as to the tax assessments, the taxes assessed to each company unless you have those before you, are you?

A. I am not.

X Q. 450. "Rent, San Francico office, $320." I understood you to say that was divided between the canal company and Miller & Lux.

A. The rent that was paid was divided between them, but not this item. This was their amount, the company's amount.

X Q. 451. I understand that the total rent of the office is divided equally? Is that it?

A. No no.

X Q. 452. How was it divided?

A. I don't remember just the proportion, but it is not nearly equal.

X Q. 453. Well I would like to know what proportion. You don't know now what the proportion is?

A. I can't tell just now what the proportion was in that year, no.

X Q. 454. But Miller & Lux and the canal company use the same office, practically?

A. Yes.

X Q. 455. And they also use the same office force, do they not?

A. In part.

X Q. 456. Now the amount of property interests which are emanated by Milller & Lux from that office greatly exceed in value that of the canal company's interest, does it not, each year?

A. Do you mean to ask whether the property value of
696 Miller & Lux exceeds the property value of the canal company?

X Q. 457. Yes.

A. Certainly.

X Q. 458. Is not that proportion of the value of Miller & Lux' interests and properties that are emanated from that office about twenty-five times more than the canal company's interests?

A. I would not attempt to make an estimate. That would assume that I knew the value of this company. That is what this whole proceeding is about.

X Q. 459. I ask you, Mr. Merritt, is it not at least that much?

A. I don't care to make any guesses of that kind. I don't see that I am called on to do so. Unless the court directs me to make a guess, I shall make no guesses.

X Q. 469. You stated, I believe, that Mr. Miller as president of the canal company got $1200 a year salary?

A. Yes.

X Q. 461. And as president of Miller & Lux $25,000 a year? Is not that true?

A. That is correct.

X Q. 462. And do those figures represent the proper proportion of the interests?

A. I don't think so. I don't think they represent the proper proportion.

X Q. 463. In which way are they incorrect?

A. I think the canal company ought proportionately pay more.

X Q. 464. Is that because you think its property exceeds in value the proportion of the value of the Miller & Lux interests?

A. No I should not base it on that.

X Q. 465. You would not base it on the valuation?

A. No I should base it on the amount of time and attention that the president has to give to the business.

X Q. 466. Well then, what was the total rent of the San Francisco office in this year, 1906?

A. I don't remember. You must remember that we had a fire in 1906 and we changed base at that time.

X Q. 467. Have you since the last session examined the books of the company as to the Tulare Lake account and the amount of $9026 about which there appears to be doubt as to whether
697 it was charged in construction of the canal?

A. I have.

X Q. 468. Well just please state what you have ascertained about that.

A. I find on December 31, 1881, a transfer entry from the account entitled "Engineer's office to the Tulare Lake Canal account, $12,712.01." The purpose of that entry was to close the account entitled "Engineer's Office" and to carry the amount represented there to the accounts where they belonged, and it was found upon examination that $12,712.01 belonged to the Tulare Lake account. It was therefore transferred to that account, and undoubtedly in my judgment, includes the $9,026.23 item as to which I gave testimony in the original rate.

X Q. 469. I asked you also to look and see if the canal farm account, showing the losses of that venture, were kept separate from the accounts of the Construction and Maintenance of the canal company proper; that is, of the cost and construction and maintenance of the canals.

A. The farm account that you refer to is undoubtedly shown here under the title of "Farm A" which begins on September 12, 1873, and ends on May 31, 1881. At the latter date the account shows a debit balance of $111,916.49.

X Q. 470. And that is entirely separate is it, from the accounts showing the cost of construction and maintenance of the complainant's canals?

A. Entirely so.

(At the hour of 12.05 p. m. recess was had until 2 p. m., when the examination of Charles Z. Merritt was resumed as follows:)

698 Redirect examination (resumed).

By Mr. TREADWELL:

R. D. Q. 2. Mr. Merritt, you referred to a contract which has been introduced here with Eastwood and others and Miller & Lux and others. Has there been a supplemental contract entered into between the same parties since that time?

A. There has.

R D. Q. 3. And is this a copy of it (showing)?

A. It is.

Mr. TREADWELL: I offer that in evidence and ask that it be marked Complainant's Exhibit No. 22.

Mr. LANGHORNE: I object to it on the ground that it is incompetent and irrelevant.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

(Marked "Complainant's Exhibit No. 22.")

Mr. TREADWELL: Subject to that objection and exception it is agreed that this copy may be used with the same force and effect as though it was an original?

Mr. LANGHORNE: Yes.

Cross-examination (resumed).

By Mr. LANGHORNE:

X Q. 471. Before we enter into these figures in regard to construction and maintenance I want to clear up a few matters. You have testified as to how the capital stock of complainant's predecessor was held by Miller & Lux and by other parties, and then it appears that about 1905 the present complainant, the canal company, was organized under the laws of the State of Nevada. Is that so?

A. Yes.

X Q. 472. And what was the capital of the Nevada cor-
699 poration, the complainant corporation?

A. $10 a share; the same number of shares.

X Q. 473. What was the total capital?

A. The total capital would be $1,000,000.

X Q. 474. And the number of shares?

A. 100,000.

X Q. 475. At $10 each, par value?

A. Yes.

X Q. 476. And when the complainant corporation was organized, I presume that the same stockholders concerning whom you testified, who were in the complainant's predecessor's company exchanged their shares in the old company for shares in the new company?

A. Either then or subsequently.

X Q. 477. So that what you have said in regard to the holding of stock in the predecessor company applies, does it, to the holding by the same parties of the same number of shares in the complainant company?

A. Subject to their transfers subsequently to the incorporation of the Nevada company.

(By Mr. TREADWELL:)

Q. You brought that down to date, did you?

A. I think so. That was intended to include the holdings at the date of the making of that affidavit. Yes, it is to date.

(By Mr. LANGHORNE:)

X Q. 478. Well, in other words, the same people who you testified held stock in the predecessor company hold the same number of shares in the new company? Is that right?

A. Yes, the stock in the new company was issued in lieu of the stock in the old company, share for share.

X Q. 479. Now you said you would prepare a list of the directors of the complainant's predecessor and other complainants. Have you got that?

A. This is it. (Referring to defendants' Exhibit C.)

X Q. 480. Was that list prepared from the minutes and stock books of the complainant and its predecessor?

A. From the minutes.

X Q. 481. Of the predecessor of complainant and of the complainant?

A. Yes. I might say in that connection, however, that I
700 examined the minutes year by year at the date of the annual meeting, and it appears that in some cases vacancies had occurred during the year which had been filled during the year, which I have not noted. Whenever I knew of such an occurrence, I noted it, but you will find some places where the filling of vacancies during the course of the year occurred, and not having known it I did not make note of it, and as I supposed that was not a material matter, I didn't go into the records minutely enough to ascertain whether or not it had occurred in other cases or not.

X Q. 482. I notice among the names of these directors J. Leroy Nickel. What relation is he, if any, to Mr. Henry Miller?

A. Mr. Henry Miller's son-in-law.

X Q. 483. And also the name of T. B. Bishop. I will ask you, was that the attorney Thomas B. Bishop?

A. It was.

X Q. 484. What connection if *he* did he have with Miller & Lux?

A. He was a director of Miller & Lux at one time and was one of the trustees of the Miranda W. Lux Estate.

X Q. 485. Did he have that connection in the year commencing December 5, 1899?

A. Yes.

X Q. 486. And Mr. D. Henshaw Ward. Did he have any connection with Miller & Lux?

A. No. He was elected to the board of directors as sentative, really, of Mr. Charles B. Howard, who was t siderable stockholder. He continued to hold stock t wards. He continued to hold the office of trustee after M sold his stock.

X Q. 487. Mr. J. E. Bell, what connection if any d with Miller & Lux?

A. Nothing at all. He was one of the minority stoc

X Q. 488. And Mr. Louis F. Monteagle was also stockholders?

A. He is a director of Miller & Lux, but he is not in Miller & Lux.

X Q. 489. How long has he been a director of Mill

A. I don't know definitely but I should say pe

701 years or something like that; may be longer.

X Q. 490. You say he has no interest in Mill

A. No.

X Q. 491. He has to hold at least one share of stock, d

A. He is a stockholder of Miller & Lux but he owns in Miller & Lux.

X Q. 492. Who does he represent then?

A. The stock that he owns in this corporation he ow He represents himself and only himself in this corporat

X Q. 493. Which corporation?

A. The complainant corporation; but the stock wh in his name in the corporation Miller & Lux Incor owned by Mr. Miller.

X Q. 494. How long has Mr. Louis F. Monteagle bee of a stockholder and a director in Miller & Lux incorpor

A. That is what I was speaking of awhile ago. I said years; it might be longer.

X Q. 495. He is still on the board of directors of co is he not?

A. Yes.

X Q. 496. And he is still a director of Miller & porated?

A. Yes. And I would like to say in this connecti giving testimony as to the stock held by those not con Miller & Lux, the first form of the question was as to wh owned stock in Miller & Lux, whether they were in Miller & Lux, or something like that, and I included eagle's name among those who had no interest in Mill but afterwards the form of the question was somewhat ch I think it read "In connection with Miller & Lux" and testified that Mr. Monteagle was not connected with Mil I want to correct my testimony and say that he was co so far as I have just stated.

X Q. 497. Then on the death of Mr. Potter, Mr. A. N. elected to fill his place?

A. Yes.

X Q. 498. And what connection, if any, did he have with
702 Miller & Lux?

A. He was one of the trustees of the estate of Miranda W. Lux.

X Q. 499. And was he a stockholder and director representing that interest in the Miller & Lux corporation?

A. Yes he was at various times. And he married a relative of Mrs. Lux.

X Q. 500. He was elected to the board on June 28th 1906 and he has been a director in the complainant corporation ever since has he?

A. Yes.

X. Q. 501. And that connection that he has with Miller & Lux has continued during that time has it?

A. Yes.

X Q. 502. Mr. F. C. Talbot, is he any relation to Miller & Lux?

A. Not at all.

X Q. 503. Is Mr. W. H. Talbot?

A. Not at all.

X Q. 504. You have already stated Mr. E. T. Allen's connection—you have already stated that?

A. I believe I did.

X Q. 505. Now did you hear the testimony this morning of Mr. Goodwin in regard to this canal known as the Drain Canal, which he said commenced at outlet 1 or 2, about outlet 1 or 2, and ran along the west side of the main canal to Los Banos creek?

A. I did not hear his testimony.

X Q. 506. Well, you know that there is such a canal?

A. I have heard that name used but I don't really know what it applies to.

X Q. 507. Well you know that that Drain canal is designed to catch and does catch the waste waters that flow through the outside canal towards the main canal?

A. I know there is such a drain as that.

X Q. 508. That that is the design of that Drain canal, to catch those waters?

A. Yes.

X Q. 509. And is it a fact that the waters in that drain canal are carried in some places underneath or across the main canal and discharge for the most part, upon the lands of Miller & Lux?

A. I don't know as to that.

703 X Q. 510. You have not examined it personally?

A. No.

X. Q. 511. Has the complainant company or its predecessor ever made any charge against Miller & Lux for any waters delivered upon any portion of their lands and going through this Drain Canal?

A. I don't know. I have not any information upon that subject. I have no doubt that they did.

X Q. 512. Did what?

A. Did make the charge.

X Q. 513. That the company made the charge?

A. That the company made the charge.

X Q. 514. For the waters from this drain canal?

A. Yes.

X Q. 515. Can you testify now the particulars as to that, when it was made?

A. No I cannot, because as I said I did not know, but I have no doubt that they made the charge if they used that water for irrigation.

X Q. 516. Well will you look that matter up?

A. I will inquire of our superintendent.

X Q. 517. It will be on the books?

A. No, of course the books do not show it, where any water comes from that irrigates any particular land.

X Q. 518. Well, the books would only show that certain water has been delivered. But there is a record kept by the company showing where the water comes from, is there not?

A. No, the water that is reported as used for irrigation is supposed to come from the canal as a matter of course.

X Q. 519. Well, it is used, is it not, when it is sold to different parties?

A. Now that we are taking measurements, yes. We take the tags or reports of the Zanjeros. They are sent in to the superintendent and charges are made from those slips, and of course all of the data contained on those slips does not enter into the books; but those tags are preserved and they show where the water is measured.

X Q. — I understand. Well, now, this water in the measuring gates with reference to the water furnished from the Drain
704 canal, is there any account kept of that?

A. I don't know. I have never known whether there is or not. That is a matter that I have no information about.

X Q. 521. The company now is pursuing the system of selling its water by measurement?

Mr. TREADWELL: We object to that on the ground that it is immaterial what the company is doing after this injunction and after this rate was adopted by the board of supervisors. That is entirely immaterial to this case.

Mr. LANGHORNE: The question relates to so far as showing whether this water has been paid for.

The MASTER: Not with the object of showing what water has been sold since?

Mr. LANGHORNE: No, not what has been sold since.

The MASTER: With that explanation I overrule the objection.

A. Yes sir.

(By Mr. LANGHORNE:)

X Q. 522. Which of the statements, Mr. Merritt, that I asked you to make up from the books, have you got?

A. I have here a memorandum of the acreages irrigated by Miller & Lux year by year. It is in pretty rough form. We have not had the time to copy it.

X Q. 523. Will you please give the data that you collected with regard to irrigation by Miller & Lux on cultivated lands and also the item in regard to 1904 with regard to uncultivated lands?

A. In 1897 Miller & Lux irrigated 24,370 acres, amounting to $23,682. In 1898, 32,424 acres, amounting to $31,436.90; in 1899, 35,032 acres, amounting to $34,925.99; in 1900, 34,939.6 acres, amounting to $39,305.62; in 1901, 33,113.5 acres, amounting to $6,949.12; in 1902, 29,151.7 acres, amounting to $33,519.27; in 1903, 38,018.2 acres, amounting to $38,303.88; in 1904, 45,335 acres, amounting to $65,200.27; in 1905, 66,245.9 acres, amounting to $54,164.89; in 1906, 58,967.5 acres, amounting to $49,174.22; in 1907, 40,432.4 acres, amounting to $35,015.54; in 1908, 44,709.5 acres, amounting to $50,073.33.

705 X Q. 524. Those are the cultivated lands?

A. Those are the acreages and amounts for cultivated lands. In 1904 they irrigated 14,639.8 acres, amounting to $4,947.38.

X Q. 525. That is, uncultivated lands?

A. Yes sir. I would like to ask if I can have—I suppose I can have the privilege of correcting this in case any error appears. I have not had a chance to check these over yet. I will have to give it to you as it was given to me.

X Q. 526. I wish you would bring the minutes showing the proceedings and that resolution which you are speaking of.

A. Yes, I have them here.

Mr. LANGHORNE: In connection with the testimony of the witness I offer the resolution passed by complainant's predecessor, page 25 of its minute book 2, in regard to the preceding resolution, directors' meeting May 24, 1904, and I read it in evidence as follows:

The vice-president informed the board that in view of applications for a rate for irrigation on wild lands the officers of the company had been considering the question of making such a rate of, say, 30 cents per acre for Fresno County, and 50 cents per acre for Merced county, and 75 cents per acre for Stanislaus county, that being considered approximately a just proportion in view of the increased cost of delivery from Fresno county down. After discussion the following resolution was introduced by Mr. Talbot, who moved its adoption, and being seconded by Mr. Allen it was unanimously carried, to wit:

"Whereas, there are lands within the flow of the company's canals which are not cultivated, and on which no crop is artificially planted or grown, but which, if irrigated, would produce considerable quantities of natural grasses and other feed for stock; and the owners thereof would irrigate said lands if water were furnished at a price which would justify such irrigation, but are unable to do so at the prices now fixed for cultivated lands.

Now, therefore, for the purpose of encouraging irrigation and of extending the benefits of the company's system over as great an area as possible,

Be it resolved, that the rates for water for the irrigation of uncultiv-

vated lands, on which no crop is artificially planted or grown, are hereby fixed as follows:

In the county of Stanislaus, 75 cents per acre for each irrigation; in the county of Merced, 50 cents per acre for each irrigation; in the county of Fresno, 30 cents per acre for each irrigation.

No person shall be entitled to water at said rates until he shall present satisfactory evidence that the same is not intended to be used to prepare the land for cultivation during that season."

706 X Q. 527. That is all there is about that, is it?

A. Yes.

X Q. 528. Was any subsequent action taken by the directors of the canal company about charging for water on uncultivated lands?

A. No, not that I recollect.

X Q. 529. Was that resolution ever rescinded by the board of directors of complainant's predecessor, or by the complainant?

A. I think not. I don't recollect any such action.

X Q. 530. Did Miller & Lux after this year, 1904, pay any sums into the canal company for irrigating uncultivated lands under that resolution?

A. No.

X Q. 531. Did the canal company make any demand upon Miller & Lux that they should pay the canal company for irrigating uncultivated lands for the year 1904?

A. Certainly not. They have a contract which gives Miller & Lux the right to irrigate such lands from surplus water without any payment, and they have not irrigated them except from surplus water. They were not obliged, so far as their relations with the canal company were concerned, to apply for this water under the rate that was given, if they intended to use surplus water. If they used other water, then of course the case was different. But when they used the surplus water of the canal company, the canal company has no right to make a charge under that contract.

X Q. 532. Was that resolution passed in 1904 made public generally in the counties of Fresno, Merced and Stanislaus, that is, to the water users?

A. I don't know what notice or knowledge other people may have had, and it is not our custom to publish our rates. No different course was followed in this case.

X Q. 533. Did any person or corporation on concern other than Miller & Lux take advantage of that resolution fixing rates for uncultivated lands in 1904?

707 A. Not so far as I now recollect.

X Q. 534. You said in your former examination that that rate was fixed for uncultivated lands in 1904 to fix a pro rata for Miller & Lux, did you not?

A. I hardly think I said that.

X Q. 535. What was it you said?

A. I said that Miller & Lux elected to apply for irrigation under that rate, and pay for it, in order that they might establish a priority of right to those lands under the canal, to irrigate those lands from the canal.

X Q. 536. That is, this amount of land mentioned by you is 1904, 14,639 acres?

A. Yes.

X Q. 537. As to that particular piece?

A. As to that amount, yes.

X Q. 538. Now in regard to the uncultivated lands which you say Miller & Lux claimed the right by contract to the waste or surplus waters, this is much more, is it not, than this 14,639 acres?

A. No. All of the acreage irrigated that year by them was included in that bill, according to the reports that were made by us. All of the uncultivated lands which they irrigated that year were irrigated under that special rate.

X Q. 539. And they did not run any surplus water over any other lands?

A. Not to my knowledge. And I know that it was their intention to pay for all the lands that were irrigated, whether from surplus water or otherwise; all of the lands, uncultivated lands that were irrigated that year we were to pay for that year in order to establish the priority that I have mentioned.

(By Mr. TREADWELL:)

Q. Irrigated from the canal?

A. From the canal; certainly.

(By Mr. LANGHORNE:)

X Q. 540. Have you anything then in your office showing in 1904, or since then, the amount of uncultivated land upon
708 which Miller & Lux claimed the right to use—claimed the right under the contract with the canal company to use what you call surplus waters without paying for it?

A. No, it was not a question of acres, it was a question of having the surplus water.

X Q. 541. Just answer my question.

A. If we had surplus water we delivered it and took no account of acreage. (X Q. 540 read.) No, I would qualify that by saying, unless the plat that I spoke of as having been returned in 1904 happens to be in existence somewhere, and I have not yet found it.

X Q. 542. There was a plat made at that time?

A. There was a plat made at that time, by the engineer, showing what uncultivated lands had been irrigated, and that plat was on file in the office at the time of the fire, and I have not seen it since, and I presume it is lost. I have looked for it and I desire still to find it; but I have been as yet unable to locate it.

X Q. 543. When were you last along this canal?

A. What part of the canal?

X Q. 544. Well, say from the head of the parallel; where the parallel commences?

A. I don't know that I ever went the whole distance along the bank of the canal from the head of the parallel to Los Banos creek. I have been most of the way.

X Q. 545. Lately?

A. No, not lately.

X Q. 546. What was about the last time?

A. I have been along or down from the head of the parallel to Poso farm within the last year.

X Q. 547. You observed, did you not, that land that lies along there at the place you have mentioned, especially on the west side, according to that map, or the southwest side is Miller & Lux' land, that lies between the outside canal and the main canal?

A. Yes.

709 X Q. 548. Which is largely pastured by a great many cattle, is it, owned by Miller & Lux?

Mr. TREADWELL: That does not appear to me to be cross-examination.

Mr. LANGHORNE: I will show that it is cross-examination.

X Q. 549. Is that not the fact?

A. Yes.

X Q. 550. They pasture there thousands of head of cattle, do they not?

A. I don't know as to the number; very likely.

X Q. 551. Well there is apparently an immense number of cattle? There is no fence, is there, Mr. Merritt, between that which separates the pasture lands where Miller & Lux' cattle graze from the main canal?

A. At that particular place do you mean?

X Q. 552. Yes, at any point.

A. Oh certainly. There is no fence that separates the canal from the pasture.

X Q. 553. Now is it not a fact, and did you not observe it to be a fact that the fence had been broken down all along these pasture lands by the cattle getting into the canal and drinking water and feeding on the stuff in the canal?

A. I didn't notice it when I passed by.

X Q. 554. Now then, you have an item here of 1906 expense account, of canal cleaning, $13,747.14. I will ask you if the cleaning of the canal for that year was any part of the charge of expense of cleaning it charged to or paid by Miller & Lux?

A. No.

X Q. 555. What was the item of canal cleaning in 1905? $3,490.49, was it not?

A. Yes.

X Q. 556. I will ask you, in the expense account of that year, in maintaining the canal, was any part of the cost of cleaning the canal charged to or paid by Miller & Lux?

A. No.

X Q. 557. Now in the account that you have given here ending June 30, 1908, there is an item "Cleaning canal, $15,760.44."

A. Yes.

710 X Q. 558. And was there for the year included in that account any amount charged to Miller & Lux or paid by them for cleaning the canal?

A. No.

X Q. 559. Now the canal that has been cleaned during the past three years, that is, commencing with the year 1905 and up to 1908, is what might be called the westerly parallel of the main canal, is it not?

A. There was some work done in that canal, but I am under the impression that there was a great deal of work done elsewhere.

X Q. 560. Well I know, but that outside, what might be called the westerly parallel, going towards the end of the canal on the left hand side, there was considerable work done?

A. There was considerable work done on that parallel.

X Q. 561. Is it not the fact that most of the work was done along there?

A. I think there was considerable work done below there in those years; but I am not the best witness as to where that work was done because I only know from occasional observation.

X Q. 562. Well, it is along that westerly parallel, is it not, that these west side lands of Miller & Lux lie upon which their cattle feed? Is not that the fact?

A. I am not sure as to that particular fact. There is pasture land there, but I never have been along that stretch of the parallel, or at least, I have not been along recently enough to know just how it lies with reference to Miller & Lux' land, and I have not noticed it on that. It can be easily ascertained, but I do not have it in my mind clearly enough to testify to it.

X Q. 563. Have you the memorandum that you said you would get in regard to legal expenses commencing, I think, in the year 1903?

A. No.

X Q. 564. You haven't had it made up yet?

A. No I have not been able to get that out yet.

X Q. 565. What have you got here?

711 A. I have the tax bills that you asked for.

X Q. 566. How far back do those taxes run?

A. You only asked for one year, the 1896 tax bills. I am not sure that I have them. I am not sure that I brought the right ones.

X Q. 567. What have you there?

A. I have got 1907-8.

X Q. 568. Turn to those, please, and let us know what the taxes are in each county. Give me the assessment and the tax in Stanislaus county for the fiscal year 1907-8, of the complainant's property?

A. The assessed value of the property is $29,985 in Stanislaus county.

X Q. 569. Does that include any franchise tax?

A. No.

X Q. 570. What is the amount of the tax?

A. The franchise tax?

X Q. 571. No, just the tax on that.

A. $682.51.

X Q. 572. Now what is the amount assessed on the valuation without the franchise tax?

A. The assessed value.

X Q. 573. What is the assessed value of the franchise in Stanislaus county?

A. $5,875.

X Q. 574. Now Merced?

A. Of the property, $161,922.

X Q. 575. And the franchise?

A. The franchise, $15,000.

X Q. 576. Now Fresno?

Mr. TREADWELL: Have you the assessment?

Mr. LANGHORNE: No, I don't think it is material.

Mr. TREADWELL: I would like to state that so far as the amount of the tax is concerned, I think counsel is entitled to his cross-examination on that subject and he is probably entitled to ask the assessed value. But we, of course, would claim that the assessed value is no evidence upon the question of value and we do not waive that.

(By Mr. LANGHORNE:)

X Q. 577. What were the taxes in Stanislaus county that were paid?

A. $682.51, total taxes.

X Q. 578. And in Merced that were paid?

A. $3,240.17.

X Q. 579. Now Fresno?

712 A. The assessed value of the property in Fresno county was $204,427.

X Q. 580. Any franchise?

A. We are not assessed on the franchise in Fresno county, but we are assessed—at least, we have to pay a license there.

X Q. 581. How much is that?

A. I don't remember.

X Q. 582. What is the amount of taxes you paid in Fresno county?

A. $4088.56.

X Q. 583. And that license tax you speak of?

A. Yes, the license tax: I think it is $50 a quarter, or something like that. I am not quite clear.

X Q. 583. Have you got it included in your Maintenance?

A. Yes, charged to Tax account.

X Q. 584. Are those all the taxes that the company paid in that year, 1907-8? Was there any franchise tax charged in San Francisco?

A. I think there must have been a Los Banos municipal tax. If so, it was paid by the superintendent's office and I have not the bill here. It was charged to Tax Account separately. These are simply the tax accounts on the property, which I supposed you wanted.

X Q. 585. You have not the tax bills then for 1906-7?

A. Not here.

X Q. 586. You can get them?

A. Yes.

X Q. 587. Will you please get them?

A. Yes.

X Q. 588. Now in this schedule here of acres irrigated by Miller & Lux and amounts paid by them in these several years, does that include the water which you said was sold by the company to them and by them sold to the town or to the inhabitants of the town of Los Banos?

A. Oh no, that would not be a matter of acerage at all. That is a separate account. That is charged of course separately month by month. They charge so much a month to Miller & Lux for that water and the bill is paid monthly or nearly so, and the credit passes to 'Water Account, the same as for any other water that is
713 sold. Of course it is not included in that acreage.

X Q. 589. Well have you that account? Could you bring that account?

A. It can be made up. Of course it is a monthly account and stre[illegible]es back over a good many years, and I should have to send [illegible] to the superintendent's office and get it fully stated. It would be a matter of several sheets.

X Q. 590. Well I want to get of course the total amount that they are paying for water to the complainant. And then do they furnish water also to these pumping works?

A. Of the assorted oil and the Standard.

X Q. 591. Are they included in these schedules that you have given in these amounts?

A. The revenues from water are included in our Water Accounts, yes. Of course that don't cut any figure in the acreage statements, but of course in our revenues from water those are all included.

X Q. 592. Now you have in here some statements covering total receipts for water over all?

A. Yes.

X Q. 593. Included in this affidavit?

A. Yes.

X Q. 594. You have not got those expense accounts for legal expenses of those suits?

A. No. I want to revert to the taxes a little. There was one thing: there was a little land that the company owned that was not assessed for that year. There is some of the land, 19.22 acres of land in lot 2 and 1363 acres in lot 4 of section 9, in township 13 south, range 15 east, which was not assessed.

X Q. 595. That is, for the year 1907-8?

A. Yes.

X Q. 596. Was there any franchise tax by the City and County of San Francisco against you?

A. No I think not. I think they have stopped that. I will have to add to my answer in regard to the taxes that the company has paid, that they paid a State license, the corporation license tax.

X Q. 597. You have here an itemized statement, Mr. Merritt, of the Maintenance Account for the year ending November 25, 1907 and in connection with your testimony and for the purpose of
714 cross-examination I will ask you if that contains what you claim to be the items going to make up the total which the complainant has already introduced in evidence?

A. Yes.

Mr. LANGHORNE: Defendants offer in evidence the said itemized statement produced by the witness, expressly reserving the right not to be bound by the same, but simply to use the same in cross-examination of the witness as to the items making up the total which has already been put in evidence by the complainant.

Mr. TREADWELL: There is no question about that.

(Marked "Defendants' Exhibit D.")

(By Mr. LANGHORNE:)

X Q. 598. In the itemized statement of account of Maintenance for the year ending June 30, 1908, you have stated, Mr. Merritt, under the head of legal expenses, a number of items going to make up the total of $18,407.54. Now taking the first item, a suit of the California Pastoral & Agricultural Co. vs. M. & L. Canal Co., what is that? Does that mean Miller & Lux?

A. Yes, Miller & Lux and this Company.

X Q. 599. And an expense of $886.50, one-half. Do you mean by that that half of the legal expenses was paid by the canal company?

A. Yes.

X Q. 600. And the other half by who?

A. Miller & Lux.

X Q. 601. Was that a friendly suit?

A. No.

X Q. 602. I understood you to say in your direct examination that this case of the California Pastoral & Agricultural Co.—that Miller & Lux had something to do with that.

A. I think you are mistaken. They have something to do with it because they are fighting them.

X Q. 603. Were the interests of Miller & Lux and the canal company the same in that suit?

A. No they were not exactly the same. They were both parties to a contract, and a dispute arose with the Pastoral Com-
715 pany, as we call it, as to the interpretation of the contract. I mean the California Pastoral & Agricultural Co. brought suit which involved the interpretation of the contract, and both Miller & Lux and the canal company were interested, and about equally interested in the outcome.

X Q. 604. In other words, you mean to say that the financial and substantial interests of Miller & Lux and the canal company were the same in that?

A. Yes.

X Q. 605. Have you the pleadings in that case?

A. No I have not the pleadings.

X Q. 606. Did the case go to judgment?

A. Yes.

X Q. 607. In what court was it brought?

A. I don't remember now.

X Q. 608. Who were the attorneys representing Mill- & Lux?

A. I think there were different ones. I don't remember.

X Q. 609. Do you remember the names of the gentlemen?

A. There were various attorneys interested in those suits and it is not clear in my mind now who was representing that particular one.

X Q. 610. Do you remember what gentlemen represented the canal company?

A. Mr. W. B. Treadwell represented the canal company, and I think Mr. E. F. Treadwell also.

X Q. 611. Did they also represent Miller & Lux?

A. I am really uncertain.

X Q. 612. Did the case go to the Supreme Court, do you know.

A. No.

X Q. 613. It did not?

A. Well I don't know that it did not go to the Supreme Court but I have a decision on file among my papers which is the last I really know about it, of which I can speak with certainty, and that was from——

X Q. 614. Well you can let me see that decision, can you not, and the pleadings in that case?

A. I can let you see the decision, I suppose, but I have not the pleadings on file.

X Q. 615. You could get them could you not? You are friendly with the attorneys, are you not?

A. Yes.

716 Mr. TREADWELL: I will state that that particular case was the case brought in the United States Circuit Court of the Southern District of California. Judgment was rendered there partially in favor of the defendants and partially against the defendants.

(Further hearing adjourned to Monday, October 26, 1908, at 10 a. m.)

717 MONDAY, *October* 26, 1908—at 10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of CHARLES Z. MERRITT resumed.

By Mr. LANGHORNE:

X Q. 616. Mr. Merritt have you made up a statement as to the number of acres of cultivated lands of the Miller & Lux corporation, Miller & Lux Incorporated, irrigated in the counties of Fresno, Merced and Stanislaus by the waters of the San Joaquin and King's River Canal & Irrigation Co., complainant's predecessor, and by the complainant, with reference to the number of acres in each county?

A. I have.

X Q. 617. Does that also show the receipts of each year in each county?

A. Yes, from 1904 to 1908, inclusive. (Producing.)

X Q. 618. Please read it into the record.

A. It reads as follows:

Number of acres of cultivated lands of Miller & Lux, a corporation, and Miller & Lux, Incorporated, irrigated in the counties of Fresno, Merced and Stanislaus by waters belonging to the San Joaquin and King's River Canal & Irrigation Co., a corporation, and subsequently to its successor, the San Joaquin and King's River Canal & Irrigation Co., incorporated, and the amounts of receipts for same:

Fresno County.

Year.	Number of acres.	Receipts.
1904	25,021.0	$36,483.32
1905	38,199.3	23,874.55
1906	31,981.4	19,988.38
1907	19,185.5	11,990.81
1908	24,535.0	20,854.71

718

Merced County.

Year.	Number of acres.	Receipts.
1904	19,992.6	$28,368.80
1905	28,046.6	30,290.34
1906	26,745.7	28,885.34
1907	21,061.5	22,746.63
1908	20,154.5	29,188.62

Stanislaus County.

Year.	Number of acres.	Receipts.
1904	321.4	$348.15
1905	.....	.....
1906	240.4	300.50
1907	185.4	278.10
1908	20.0	30.00

Year.	Total acres.	Total receipts.
1904	45,335.0	$65,200.27
1905	66,245.9	54,164.89
1906	58,967.5	49,174.22
1907	40,432.4	35,015.54
1908	44,709.5	50,073.33

X Q. 619. Mr. Merritt, in regard to the years prior to 1904, why are they not shown?

A. The records of the company were lost and we had to depend upon Miller & Lux' vouchers which were made out with reference to the ranches and did not show county lines. From 1904 on, we were able to secure the bills rendered to Miller & Lux so as to show the acres and revenues in the different counties, because the rates were different.

X Q. 620. The other day you gave a statement of figures showing the difference of moneys that Miller & Lux had actually paid on their cultivated lands to the canal company for irrigation and the

amount that such irrigation would come to under the rates that other persons paid. Is that correct?

A. Yes. We called it a statement of the saving to Miller & Lux resulting from the special rate which they had under their contract.

X Q. 621. In other words, that their contract rate was less than the rate paid by other parties. Is that right?

A. Yes.

X Q. 622. Now then, you stated that you had not made that estimate of difference subsequent to 1903 for the reason that the county rates in Merced and Fresno were less than the contract rate
719 that Miller & Lux had agreed to pay. Is that right?

A. Yes.

X Q. 623. Now then, do I understand that after that the Merced board of supervisors in 1904 made a rate of $1.08 per acre for cultivated land, did they not?

A. Yes.

X Q. 624. And what rate did Miller & Lux pay on cultivated land after that rate was fixed by the supervisors in Merced County at $1.08?

A. They paid $1.08 an acre.

X Q. 625. And what was the rate by their contract?

A. $1.25.

X Q. 626. And Fresno in 1904 made a rate of 62½ cents per acre for cultivated land?

A. Yes.

X Q. 627. And did Miller & Lux pay any more than that?

A. No, their contract was not that they should pay $1.25 an acre, but that they should pay the same that other people paid; the same as other people paid, not to exceed $1.25 an acre.

X Q. 728. In Fresno after 1904, that is, while the rate of 1904 in Fresno was in operation, they paid 62½ cents, just as others paid? Is that correct?

A. Yes.

X Q. 629. Now in Stanislaus the rate fixed in June, 1896, was $1.50 per acre for cultivated lands, and then some special rates as to other matters, I believe?

Mr. TREADWELL: $1.50 for alfalfa.

Mr. LANGHORNE: $1.50 for alfalfa.

A. Yes.

X Q. 630. And that covered the majority of irrigation, did it not?

A. Yes.

X Q. 631. And as to the cultivated lands that Miller & Lux had in Stanislaus county after 1896, was it any greater than that shown by the estimate you have put in for 1904?

A. I don't remember what the acreage was in that county. It was never much, so we have not paid very much attention to it.

X Q. 632. Now in 1907 Stanislaus fixed a rate of $1.50 per acre and Merced a rate of $1.65, and Fresno a rate of 85 cents
720 per acre, and those rates were in force until the injunction issued in this suit, sometime in June, 1908, those rates were in force?

A. They were in force for the year ending June 30, 1908.

X Q. 633. And they were paid, were they, by Miller & Lux, during that time?

A. Those rates were paid subject to their contract for $1.25; that is, that they should not be to exceed $1.25 on land which we irrigated for only one crop.

X Q. 634. In other words then, as to the lands in Merced county, the rate being $1.65, fixed by the board of supervisors, Miller & Lux paid no more than $1.25. Is that it?

A. On such lands as only produced one crop, or to receive water enough to produce only one crop.

X Q. 635. How as to other lands?

A. They paid the full rate, $1.65.

X Q. 636. That is, where there was more than one crop?

A. Yes.

X Q. 637. Have you a list of those lands in which there was a distinction between one crop and more than one crop?

A. No I have not got it here. I have it at the office.

X Q. 638. How in regard to the 85 cents in Fresno?

A. That was less, of course, than the contract rate that you speak of.

X Q. 639. Did they pay the contract rate or the 85 cents?

A. They paid 85 cents, of course, because their contract, as I said before, was not to pay $1.25, or to pay more than other people if it exceeded $1.25; so of course when they paid 85 cents they were paying according to their contract.

X Q. 640. But did they pay any more than 85 cents?

A. No.

X Q. 641. And the rate Stanislaus county fixed in 1907 was $1.50 and as to such of their cultivated lands as lay in that county, did they pay that, according to your testimony, then?

A. They paid not to exceed $1.25 for one irrigation for one crop. If any lands produced more than one crop or received water enough to produce more than one crop, they were charged $1.50 an
721 acre, the same as other people.

X Q. 642. Now then, alfalfa produces several crops a year, does it not, under successive irrigation?

A. It may be made to produce several crops, yes.

X Q. 643. How about that in regard to Miller & Lux, in regard to their alfalfa, did they only irrigate for one crop or did they irrigate for more than one crop?

A. Some of it was for one crop and some for more than one crop.

X Q. 644. Now I understood you to say the other day that you could produce some maps showing the irrigated cultivated lands, irrigated by the waters of complainant and its predecessor. Have you those maps?

A. I have.

X Q. 645. Have you got them with you?

A. I have.

(By Mr. TREADWELL:)

Q. Before those are exhibited, I would like to ask the witness a question in regard to them. Did you make the maps referred to?

A. No.

Q. Do you know anything about their correctness of your own knowledge?

A. No, they were made in the office of the superintendent, for the most part. They are plats that were in use there for some years for the purpose of checking the irrigation contracts, and when I was down there a year ago I told the superintendent to have one of his clerks color on those plats the lands that had been irrigated during the year ending June 30, 1907, coloring the land of Miller & Lux one color and the land of other people another color, for convenience in distinguishing them. He had that done and the map was sent in to me in that shape. Afterwards I wanted to know how the irrigation of Miller & Lux for that year compared with the irrigation of other lands for previous years, and I had a draughtsman in our office outline the land that had been irrigated during the year ending June 30, 1906 according to the bills rendered to Miller & Lux, in another color, all of which will appear on the office
722 plats. But personally I have never checked the work of either the clerk in the superintendent's office or the draughtsman in our office to see if it corresponded with the bills rendered to Miller & Lux.

(After a conference between counsel, it was assumed by them that they would be able to arrive at a mutual understanding with reference to the matters which counsel for defendant- wished to show in regard to the maps, and further inquiry on that point was suspended.)

(By Mr. LANGHORNE:)

X Q. 646. Now you said, Mr. Merritt, that you would find out what the office rent was?

A. Yes sir.

X Q. 647. What proportion of the office rent did they pay since 1906?

A. In the year 1906 of course the fire occurred. Prior to that time, that is, prior to the fire, for several years, we had been occupying offices jointly with Miller & Lux on California street, at 508, the rent paid by Miller & Lux being $1,560 a year, for those offices, and had been for some years prior to the fire, and they charged the canal company $320 a year as their share of the office rent.

X Q. 648. That is, prior to the fire?

A. Yes. The $1,560 included the unfurnished offices and the lighting. It did not include fuel or janitor service. That Miller & Lux had to pay in addition to the $1,560, but the $320 which they charged the canal company did include their share of the fuel and light and janitor service and also a part of the furniture of the office. They had the use of some furniture that belonged to Miller & Lux, although they owned some furniture themselves. That was before the fire.

X Q. 649. And since the fire?

A. Since the fire, that is, from the time that the temporary
on Howard and Fifth street- was erected, which was very shortl
the fire, and until August 1, 1907, when we removed
Merchants Exchange, we continued to pay Miller & Lux, s
well, I should not state it that way. I should say tha
723 the time of the fire until November 30, 1906, we con
to pay at the rate of $320 a year as our share for the
the temporary offices. We made no difference on account
change.

X Q. 650. What was the total amount a year?

A. To Miller & Lux?

X Q. 651. Yes.

A. Well do you mean in the temporary office?

X Q. 652. Yes.

A. That is difficult to get at because Miller & Lux rente
and paid $80 a month ground rent and they erected the bu
themselves and furnished it themselves at a cost of somethi
$4,000. Now what proportion of that cost ought to be charg
course has never been determined, because Miller & Lux ha
charged that to their rent account. They simply owned that
ing, and most of the cost will be loss; so that as a matter of fac
rent from the time they moved into the temporary offices i
1906 until August 1, 1907 would be represented by the groun
plus the larger part of the cost of construction of that tem
building; so that it would be legitimate to say that their offi
during that period was very much in excess of what it had fo
been on California street, but no change was made in the rate c
to the canal company until December 1, 1906. From that tim
we vacated the temporary offices, a charge was made to the
company of $50 per month, to include office rent and the serv
a stenographer and incidentals. That was the first time
history of the concern that this company had paid anything
services of a stenographer, and in that case it was not defin
was simply made a part of the rental charge. From August 1
to November 30, 1907, Miller & Lux charged the canal comp
the rate of $100 a month for their share of the office rent, inc
not only the unfurnished but the furnished offices and
724 and light and fuel and stenographer and other offic
dentals, and I suppose that the present rent is the
Nothing has been said, and it is to be assumed that they wi
tinue to charge them at the rate of $100 a month.

X Q. 653. How many concerns have been in the habit of
that same office there, Mr. Merritt, besides the County Clerk'

A. Miller & Lux, the Las Animas & San Joaquin Land C
corporated——

X Q. 654. That is owned by Mr. Henry Miller solely?

A. Yes.

X Q. 655. What other concerns?

A. The Borland Land Company, which is also a corpo
owned by Mr. Henry Miller; the Pacific Live Stock Com

which is a corporation which has carried on the business formerly carried on by Miller & Lux in Nevada and Oregon. It is owned entirely by Miller & Lux, and for all practical purposes it is considered as identical with Miller & Lux in the matter of expenses in the office.

X Q. 656. So the total office rent, including stenographer, is about $1200 a year, you say—$100 a month?

A. At present, yes.

X Q. 657. Before you moved into the present offices you say it was $50 a month for all, including the stenographer?

A. Yes.

X Q. 658. Then what is the total office rent now?

A. Well I forgot to get that for you. I will have to look that up I don't recollect just what it is that we are paying.

X Q. 659. Was the matter brought to the attention of the canal company about the division of this office rent expense?

A. Do you mean in the board of directors?

X Q. 660. Yes.

A. I don't remember that it was.

X Q. 661. It was set, I suppose, by Mr. Miller and Mr. Nickel, as being in their opinion the fair charge against this company, against the canal company?

A. Yes.

X Q. 662. Do you know whether in making that there was any proportion taken as to the value of the interests administered
725 in that office, the proportionate value of the interests administered, that is, the value of the canal company's interests as to all the other interests administered in that office?

A. I don't think that that was considered as the basis of division. It was probably reached rather by considering the extent of use, the time occupied and so on; that is, the time of the stenographer that would be used——

X Q. 663. Can you give us, without giving the exact amount of that office rent, about what the proportion is that the canal company pays, approximately?

A. Miller & Lux are now paying in the Merchants Exchange $415 a month for office rent. They are charging the canal company $100 a month as their share of the rent of the furnished offices, $415 being for the unfurnished offices. The $100 also includes the services of the stenographers, the use of the typewriting machines, &c.

X Q. 664. On page 203 of the reporter's transcript of your testimony you have given the total receipts each year received by the canal company for the sale of water. I will ask you what is the ending of each year in that statement? Is it June or November?

A. June 30. The irrigation year ends on June 30. At that time all customers are charged with the water that they have received during the year, and from that time until the books are closed the company is engaged in collecting it- bills, so that the annual statements of the company which are made for the fiscal year ending November 25 of each year show the expenses up to November 25,

but the revenues derived from the sale of water are for the year ending June 30 previous.

X Q. 665. Now you have also testified to the annual cost of maintenance of complainant's works, and how about the year of such calculation in your estimates? Does that end in June?

A. No, as I say, all expenses, including maintenance, are
726 for the year ending November 25.

Mr. LANGHORNE: We ask, your Honor, that in view of the testimony of the witness, the evidence here in regard to maintenance be stricken out since it appears that it does not correspond with the year for which water revenue is calculated or given to the court, and that on that ground it is irrelevant to show here, that is, as to determining the profit.

The MASTER: I overrule the motion.

Mr. LANGHORNE: We take an exception.

X Q. 666. Now as I understand, Mr. Merritt, you have not the items of the Legal Expense Account here which are included in this Maintenance account?

A. I have not.

X Q. 667. Will you get that, please, as far back as you can?

A. I will.

X Q. 668. You can get that anyhow since the fire, or since 1904?

A. Yes I think since June 1905.

X Q. 669. That is, you have furnished here a statement in regard to the year ending June 30, 1908, an estimate of an itemized account as to legal expenses. I would like to have it in the form shown there.

A. I understand.

(By the MASTER:)

Q. Mr. Merritt, could there not be an account for maintenance made out so as to tally with the year of irrigation, your receipts for irrigation?

A. If we had closed up our books on the same date that the irrigation year closed, of course that would be a perfectly simple matter. As a matter of fact we did not close our books and it would be pretty hard to go back now and show what the state of our books would have been if we had closed our books on that date, because we were accustomed to take an annual inventory of our personal property, and that would not be exactly the same, although it would be approximately the same, on June 30 as on November 25.

(By Mr. LANGHORNE:)

727 X Q. 670. Have you the tax receipts for 1906-7?

A. I have (Producing). The tax bills for the year 1905-6 were in the oven on April 18, 1906 and were slightly overdone. You will have to be a little careful in handling them. The assessed valuation of the company's property for the fiscal year 1905-6 in Fresno county was $195,639. In Merced county, $176,562; in Stanislaus county, $29,210. Besides the assessment of the company's

property in Fresno, we paid a license tax of $200 a year. In Merced county we were assessed on a franchise value of $15,000. In Stanislaus county we paid no franchise tax that year. In 1906-7 the assessed values of property were as follows: In Fresno county, $194,390.55; In Merced county, $177,172; in Stanislaus county, $30,065. In Fresno county we paid a license tax of $200, as before. In Merced county we were assessed on a franchise value at $15,000. In Stanislaus county we were assessed on franchise value at $5,875.

X Q. 671. The tax that was paid is as shown in your accounts which you filed here?

A. Yes.

Mr. TREADWELL: In that connection I would like to ask leave to withdraw Exhibit 16 and substitute this statement for it. There is an error in Exhibit 16 in the taxes.

Mr. LANGHORNE: Subject to the same objection and exception as to the one which is withdrawn.

X Q. 672. Mr. Merritt, you said that there were some proceedings, you thought, of the board of directors of the canal company with reference to the Borland contract. You said you would produce them.

A. My minutes are not written up.

X Q. 673. Rough minutes have been taken, have they not?

A. Yes.

X Q. 674. Was there any special discussion about that matter shown by the minutes?

A. Yes. The minutes are not written up even in the rough, in full. I took notes from which to write them up.

X Q. 675. Well, before the close of the case I would like to
728 see the minutes as you have written them up, or that is, as you intend to write them up.

Mr. TREADWELL: There are no minutes written up yet. You can just as well ask him what he intends to put in.

The WITNESS: I don't know that I can tell that.

(By Mr. LANGHORNE:)

X Q. 676. Could you, Mr. Merritt, make up your Maintenance Account to correspond as to the years with the accounts you have put in evidence here of the total receipts received by the canal company for the sale of water?

A. No it would be impossible now to go back and make up an absolutely accurate account closing the books assuming that the books had closed at a different time than they actually did close, because they were always closed on the basis of the inventory of personal property, and as to the value of that personal property from time to time, and there was no inventory taken on June 30 of each year, and of course we should have to make some estimate in order to close the books at that date, and therefore it would be an unsatisfactory showing.

X Q. 677. Now then, when you declare your dividends don't you

declare your dividends with reference to the profit that you make at the end of the irrigation year?

A. Yes with reference partly to that and partly to the amount of money that can be spared

X Q. 678. In arriving at profits at the end of an irrigation year, don't you have to estimate on the expenses of maintenance for the irrigation year?

A. I don't know that I exactly understand your question, but we don't make up the profits at the end of the irrigation year. As I said, we make up a statement of the profits at the end of the fiscal year which includes the previous irrigation year.

X Q. 679. The previous irrigation year?

A. That is, the irrigation year that has ended just a few months prior to the close of the fiscal year.

X Q. 680. But you do include the items of expense of maintenance that have accrued since preceding June 30 up to
729 November, do you?

A. Yes, we include our expense up to the date of the closing of the books.

X Q. 682. Although you only include the gross revenue up to the end of June?

A That is the fact.

X Q. 683. I asked you for a statement of the amounts received for waters sold by the company outside of irrigating lands. That is, I understood that water was sold to Miller & Lux and Miller & Lux sold it to the town of Los Banos, for instance. Have you got that statement?

A. I have. (Producing.)

X Q. 684. Will you please read that in evidence.

A. There was received for the sale of water for purposes other than irrigation, as follows: Water for stock for the year ending November 15, 1897, $873.50; 1898, $684; 1899, $571.20; 1900, $476.50; 1901, $834.31; 1902, $717.50; 1903, $738; 1904, $238.87; 1905, $50; 1906, $303.94; 1907, $191. There was also received for water sold to Miller & Lux and others, neither for irrigation nor for stock water, being largely for domestic and similar uses—for instance, sale to the Southern Pacific Co. for use in their steam engines—for the year ending November 15, 1897, $4,460; 1898, $660; 1899, $1,010; 1900, $1,770.92; 1901, $600; 1902, $3,530; 1903, $1,270; 1904, $1,605.60; 1905, $1,572; 1906, $1,417; 1907, $1,404.

X Q. 685. Were those amounts included in the statement you have given on page 203 of your testimony as to the receipts each year from the sales of water by the company?

A. They were.

X Q. 686. That statement you have just read does not show to whom those waters were sold?

A. No.

X Q. 687. Is it not a fact that the most of them were sold to Miller & Lux?

A. Yes, I suppose that more than half would be to Miller & Lux.

Mr. TREADWELL: You are referring to water used for what?
730 A. I am referring to water used for other purposes.

(By Mr. LANGHORNE:)

X Q. 688. Does that include water sold to Miller & Lux and by them sold to the town of Los Banos and its inhabitants?

A. Yes.

X Q. 689. What rate does Miller & Lux pay, if you remember, for water purchased by them for that purpose?

A. My recollection is that they are paying $50 a month in Los Banos.

X Q. 690. That is for the use of all water by the town of Los Banos?

A. Yes, for the town waterworks.

X Q. 691. Is there any measurement?

A. No.

X Q. 692. They pay that irrespective of how much is used?

A. They pay a flat rate, yes, the same as the Southern Pacific does. They pay a flat rate.

X Q. 693. Why is it that the canal company did not sell the town of Los Banos direct?

A. The canal company did not think it was a profitable proposition to put in a plant there. It has not been profitable for Miller & Lux and it would not have been profitable for the canal company. But Miller & Lux were interested in the town and the canal company was not, and the burden of supplying water was therefore borne by Miller & Lux. The canal company was not asked to risk anything in doing any of the distribution, putting in a plant or pumping works or incurring added expense by making charges and collecting for the use of water for domestic purposes.

X Q. 694. Do I understand, Mr. Merritt, that the water is run into a cistern or reservoir at Los Banos, that is, for Miller & Lux, that is to be supplied for Miller & Lux, without being measured, without any measurement being made of it?

A. That is true. I might say in further explanation that the waterworks were first put in by Miller & Lux with the expectation of deriving a supply entirely from wells. The well water was not altogether satisfactory and so they began using the canal company's water in part. I am under the impression that they are
731 using the canal company's water almost entirely now. Whether they use the wells or not I am not sure. But they have wells there and they originally intended to supply from their wells.

X Q. 695. Do you know how much water they use per month or per year?

A. No I do not. That could only be ascertained by making an estimate of the capacity of the pump, provided it runs to its full capacity.

X Q. 696. There is a little town called Dos Palos too, is there not?

A. Yes, there is both a town of Dos Palos and a town of South Dos Palos, which is the railroad station.

X Q. 697. Do they get their water there from Miller & Lux, do you know?

A. There is very little water used in the town of South Dos Palos, but whatever is used there comes from the canal and is pumped by Miller & Lux. I don't know just how many consumers we have; perhaps half a dozen. I don't think we have as many as that.

X Q. 698. Is that water sold to Miller & Lux?

A. Yes.

X Q. 699. Do they pay for it?

A. They pay for it, that is right.

X Q. 700. How much?

A. I don't remember what the charge is in Dos Palos.

X Q. 701. There is a town of Firebaugh, is there not?

A. Yes.

X Q. 702. You furnish water there?

A. There are no city waterworks there. There is one windmill used on one of Miller & Lux' cottages, and I think they pay the canal company for pumping water from the Poso ditch.

X Q. 703. From the Poso ditch?

A. Yes.

X Q. 704. Well, the Poso ditch does not belong to the canal company, does it?

A. No, that is the ditch from which this particular tank is filled. It is filled from the Poso ditch, and my recollection is that there is a charge made for the use of that water, and just what it is I am not certain. I didn't look up the item because you didn't
732 ask me to. I didn't know as you cared.

X Q. 705. Well is the charge made by the canal company against any other person using waters from the Poso ditch?

A. No, Miller & Lux of course are the only ones who use the water from the Poso ditch.

X Q. 706. They claim to own the water running through the Poso ditch, do they not?

A. No; they only own the ditch and they buy the water from the canal company to use in that ditch. It is only at certain times when the canal company is unable to supply them all they need that they carry the water of others which is delivered to them through the Poso ditch

X Q. 707. That would probably be what is known as the low stage of the river? Is that right?

A. No, at the high stage season.

X Q. 708. Now have you stated and gotten in evidence in connection with your testimony all of the lands, whether cultivated or uncultivated, that are irrigated by waters from the complainant's canals?

A. No.

X Q. 709. What other lands are there?

A. There is no statement of the acreage of the uncultivated lands irrigated from the water of the canal.

X Q. 710. I understand that in 1904 there was a survey made of those lands?

A. For that one year, yes, but I can't say as a rule for I have not pretended to make a statement at all of that. I have kept no records.

X Q. 711. You don't mean to say then that that survey in 1904 would be true of all the years since that time?

A. I have no knowledge as to that

X Q. 712. But, with that exception, your testimony embraces all the lands—say cultivated lands—that have been irrigated by
733 waters from the complainant's canal?

A. Yes, so far as I am aware.

X Q. 713. And all of the waters that have been sold to parties, no matter who they may be, and from whom receipts are collected for the sale of water?

A. Yes.

(Further hearing adjourned to Saturday, October 31, 1908, at 10 a. m.)

734 SATURDAY, *October* 31, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of CHARLES Z. MERRITT resumed.

By Mr. LANGHORNE:

X Q. 714. Mr. Merritt, have you the statement of the rights of way that were purchased by the canal company?

A. I was unable to make a statement of that, for the reason that our books were lost that covered that period when we constructed the outside canal. I found one item only in the superintendent's books, which does not cover all the items that I remember were paid. But what the other items were I cannot ascertain for lack of the record.

X Q. 715. State, please, approximately, the rights of way that were purchased and paid for by the canal company.

A. The only item which I can find was the payment to C. H. Wagner, of $454.25 for right of way through the northeast quarter section of 29 in 10-10—not the entire quarter; a portion of it.

X Q. 716. What portion of the canal was that?

A. That was on the extension of the outside canal, the portion in Merced county, the portion west of Los Banos creek.

X Q. 717. About what year was that? A. I didn't get the date. The superintendent reported this. He didn't report the date, and I am uncertain but I think it was about '98.

X Q. 718. 1898?

A. Yes.

X Q. 719. Do you know any other instance of purchase of right of way prior to the loss of your books in April, 1906?

735 A. I don't know of any. I was not personally cognizant of the facts regarding the——

X Q. 720. How about since the destruction of your books in

1906? Is there any record of any purchases of right of way by the canal company? A. No, we have not extended the canal since that time.

X Q. 721. I thought there had been some extensions in Stanislaus county since 1906.

A. No, I don't recall any. Those little delivery ditches down there are the only ones that I know anything about.

X Q. 722. Well, is it not a fact, then, Mr. Merritt, that the entire right of way of the canal company was donated by the different land owners to the canal company, with the exception of this Wagner piece that you have mentioned, and probably one or two other small pieces?

Mr. TREADWELL: We object to that on the ground that it is calling for a conclusion of the witness. The record already shows under what contract we got some of the right of way. The witness should state the facts and not his conclusions as to whether it was a donation or purchase.

Mr. LONGHORNE: He can state of his own knowledge. The question is relative to his knowledge, whether he knows that.

The MASTER: Any information that he has he can state.

By Mr. LANGHORNE:

X Q. 723. You kept the records, did you not?

A. I kept the records during the construction of the out-side canal and during the construction of the Dos Palos system; but, of course, the main canal was constructed to its present terminus when I became secretary.

X Q. 724. You have produced here what you claim are the books that you saved, and according to your best recollection they are all the books and data which you had as to the cost of construction of this canal from 1871, have you not?

A. Yes sir.

X Q. 725. And yet I understand you to say now that
736 there is nothing in the office of the complainant which will show how much of their right of way was purchased and how much was donated to them?

A. I can say this, which will perhaps cover the point: that so far as I have been able to discover from the records of the company I have found no entries showing the purchase of right of way of that portion of the canal which was constructed prior to my personal knowledge of the matter; and since then there have been only a few cases within my knowledge where the company has paid cash for its right of way.

X Q. 726. In cases where rights of way were donated to the company they were by contract or deed in writing, were they not?

A. Yes.

X Q. 727. And they were put on record, were they not?

A. Yes.

X Q. 728. Have you not a memorandum in the office of the company, of its properties, including rights of way that it owns?

A. I have records of various sorts. I have maps which show their right of way. I have a report of the searcher of records in Merced county as to one portion of the right of way as to persons who granted the right of way, according to the records.

X Q. 729. You have that report, have you?

A. It is a plat on which some names appear. But that is all I have at present. My deeds were lost in the fire.

X Q. 730. Well, you mean those deeds had been put of record, had they not?

A. Certainly they had been put of record in the different counties.

X Q. 731. And have you not a memorandum in your office of the grantors or donors of the rights of way to the canal company?

A. I have this plat that I referred to, and which has names of grantors of the right of way of the outside canal, or a portion of it, proper. That is all I have at present.

X Q. 732. From that plat you can arrive at how much of
737 the right of way, can you not, which each grantor or donor sold or gave to the company?

A. No, because that simply shows the name of the grantor. It shows nothing at all as to the consideration.

X Q. 733. What officer of the canal company other than yourself, Mr. Merritt, would be likely to know if anything more than this sum you have mentioned in the Wagner case had been paid to the canal company for any portion of its right of way?

A. I think Mr. Miller would be more likely to remember than anyone else. Mr. Nickel might remember, because there was some discussion in the office at the time; but I think no one outside of those two would know.

X Q. 734. Now you stated in your direct examination that Miller & Lux had paid the sum of $33,000 as a subsidy toward the building of this canal, did you not?

A. Yes.

X Q. 735. Did you read the subsequent contract that was put in evidence here, made in 1872, whereby in lieu of that subsidy they gave certain notes to the canal company—Miller & Lux gave certain notes to the canal company?

A. Well, I have undoubtedly read the contract, but not recently, and I can't recall that particular fact.

X Q. 736. And did not those contracts provide that that subsidy was to be paid in water furnished by the canal company to Miller & Lux.

A. I don't recall it.

X Q. 737. The subsidy that you referred to in your testimony was the one mentioned in the first contract, was it not, or the first two contracts?

A. The first two contracts.

X Q. 738. The first two contracts?

A. Yes.

X Q. 739. Is there any other contract than those that you have mentioned and that are put in evidence between the canal company

and Miller & Lux or Mr. Henry Miller or any concern or corporation represented by Miller & Lux or Mr. Henry Miller with relation to waters or water?

A. Yes.

X Q. 740. What contract is it?

738 A. The contract between this company and Miller & Lux with regard to the carrying of water.

X Q. 741. Is that in writing?

A. It is.

X Q. 742. Have you got that?

A. I have. (Producing.)

X Q. 743. You know the signatures to this contract which you now produce, dated December 4, 1905?

A. I do.

Mr. TREADWELL: We admit that that was duly executed by all the parties.

Mr. LANGHORNE: In connection with the testimony of this witness I offer this contract in evidence and ask that it be marked "Defendants' Exhibit E," and ask that it be transcribed into the record.

(Marked "Defendants' Exhibit E." A copy is appended to this transcript at the close of the transcript of the testimony.)

X Q. 744. When was this canal, provided for in this contract, in Exhibit E, called the Helm Canal, first commenced, Mr. Merritt?

A. I don't know.

X Q. 745. What officer or employé of the canal company would know about that?

A. Mr. Miller; possibly Mr. Nickel. But I think it is doubtful about Mr. Nickel. Mr. Miller would know probably.

X Q. 746. Was the matter of the making of this contract submitted to the board of directors of the San Joaquin and Kings River Canal & Irrigation Co.?

A. It was.

X Q. 747. Were there any proceedings of the board of directors in relation to it?

A. Of course you mean the San Joaquin and Kings River Canal & Irrigation Co., Incorporated?

X Q. 748. Yes. Well, this was made before your incorporation? —by your predecessor?

A. Yes, you are right.

X Q. 749. There were proceedings?

A. Oh yes, it was presented to the board of directors.

X Q. 750. And a resolution passed by the board authoriz-

739 ing the contract?

A. Yes.

X Q. 751. What is the capacity of the Helm Canal mentioned in this contract?

A. I don't know.

X Q. 752. I see that I was mistaken in saying that this agreement was made by the predecessor of the complainant canal com-

pany. It appears to have been made by the complainant canal company. Now in paragraph one of that agreement is a provision that the parties of the second and third parts should have the right to encroach upon and use, where found necessary, the right of way of the party of the first part. Do you know whether the Helm canal referred to in that agreement did encroach upon or use any portion of the right of way of the party of the second part?

A. It did.

X Q. 753. To what extent was that encroachment or use?

A. I don't know exactly.

X Q. 754. Was any payment made by the parties of the second, or third part, or by either of them, to the party of the first part, on account of such encroachment or use?

A. No.

X Q. 755. When did the parties of the second and third parts, or either of them, commence to divert any waters from the river through this Helm Canal?

Mr. TREADWELL: Of your own knowledge, Mr. Merritt.

A. I don't know of my own knowledge when it was commenced.

(By Mr. LANGHORNE:)

X Q. 756. Well, there is a provision in here providing for certain compensation for the use of the weir for that purpose, is there not?

A. Yes.

X Q. 757. And that is to be fixed and paid annually?

A. Yes.

X Q. 758. There is an account kept of that, is there not?

A. The fiscal year during which they have so used the headworks is not closed yet, and of course that entry will not be made until the close of the year. It is all ready to make. The estimates have been made and the data is at hand to make the entry, and it will be made before the close of the year.

X Q. 759. I understood that you closed your books in
740 regard to the revenue of this company on the 30th of June of this year?

A. Oh no, we don't close our books until the 25th of November of each year. And during the time that they were working on the acreage basis, that is, until July of this year—July 1—the closing of the books on November 25 showed the revenues from water up to the 30th of June preceding, because that was the date at which contracts matured, and any water delivered to that date under the old arrangement was not payable until the end of the irrigation year; therefore those revenues had not accrued, and no record was made of those revenues at that time in the books. But our fiscal year has always been from November 25 to November 25.

X Q. 760. Did not the Las Animas and San Joaquin Land Company or Miller & Lux take waters through the Helm Canal in the year 1906?

A. No, they intended to do so, and we supposed that they were doing so, but when the year had been completed we found that the records had not been kept there so as to show just what was done,

and we were unable to arrive at the facts as to the water which they had intended to carry for themselves, and therefore the canal company charged them for all water delivered to them, whether it was diverted through the Helm canal or through its own canal.

X Q. 761. Well, that is not an answer to my question. I will ask you again: You know who the parties of the first and second part- to this agreement are?

A. Yes.

X Q. 762. Did not the parties of the second and third part- in this agreement, or at least one of them, one of those parties, divert water from the San Joaquin River through the so-called Helm Canal during the year 1906?

A. They did, and afterwards all that water was claimed by the canal company as its own diversion, and so treated in its accounts.

X Q. 763. Then they did divert water during that year?

741 A. They did divert water during that year.

X Q. 764. Was that water measured during that year that was diverted through the Helm Canal?

A. I am unable to state of my own knowledge just what the record would show as to that, just what the facts were.

Q. 765. Did the parties of the second and third parts, or either of them, divert any of the water from the San Joaquin river through the Helm canal in the year 1907?

A. Yes, the year 1907-8, is what you refer to; that is, the year beginning July 1, 1907 and ending July 1, 1908?

X Q. 766. Yes.

A. They did.

X Q. 767. Was any record of measurement kept of the amount of water so diverted?

A. There was.

X Q. 768. Was that water paid for to the canal company?

A. No, they paid for carrying the water.

X Q. 769. They paid for carrying it?

A. Yes; at least the records are ready to enter, so that they will pay for it when the year closes.

X Q. 770. You have the records, have you not, of all of the waters that it carried and paid for—all of the waters that were carried and paid for by the parties of second and third parts, or by either of them under this agreement?

A. Yes, during the year ending June 30.

X Q. 771. I am not talking about compensation provided for in paragraph two of this contract, Exhibit E, which relates to compensation to be paid by the second and third parties for using a portion of the canal of the complainant for carrying their waters.

A. I supposed that you were inquiring as to that.

X Q. 772. No I was not. I am inquiring as to the use of the weir or dam, the main dam for turning the waters of the parties of the second and third part- into the Helm canal.

742 A. The facts as to that are that the proportion of water diverted by the parties of the second and third part- to the entire diversion into the canals of the company, whether through

the Helm or through the company's own headgate, has been determined, and that proportion of the $2,200 just agreed upon as the cost of maintaining the headworks will be charged to Miller & Lux before the end of the year. It amounts to $338.80.

X Q. 773. For what year is that charge made?

A. For the year ending June 30, 1908.

X Q. 774. And no charge is made for any year prior to that year which you have just mentioned?

A. No.

X Q. 775. And yet I understand you to say that waters were carried, diverted by that dam and carried in the Helm Canal in the year 1906?

A. I said that water was diverted which the parties of the second and third part- supposed they were diverting on their own account under this contract, but that being unable to arrive at the exact facts in the matter, all of that water was deemed to be water diverted by this company, and was charged for accordingly; therefore, the parties of the second and third part- in that contract having made no use of that dam, no charge was made against them for such use.

X Q. 776 What do you mean by saying that the parties of the second and third part- had made no use of the dam in 1906, when you have also said the waters were diverted through the Helm Canal that year?

A. I mean just what I said, that they had intended to avail themselves of the terms of that contract as to that water, but they did not do so, therefore the entire diversion was deemed to be the diversion of this company, and the charge was made accordingly to Miller & Lux, for all the acreage that they irrigated by any waters taken through this company's canal, and they therefore derived no benefit from the waters which they had supposed they were
743 diverting; therefore no use was made by them of the headworks, and no charge was made against them for it.

X Q. 777. That was up to what time?

A. Up to July 1, 1907.

X Q. 778. Now since then a charge has been made, you say, and the waters that are carried by the Helm Canal are paid for by deducting a certain proportion of this expense you mention here, $2,200?

A. Yes.

X Q. 779. I understand then that up to the end of June, 1907, there was no payment made in accordance with paragraph two of Exhibit E?

A. That is correct.

X Q. 780. But that since that time the use of the dam and its payment, as provided for in paragraph two, has been paid for how? In what manner?

A. By ascertaining the proportion of the water carried for Miller & Lux and charging them with that proportion of the $2,200 provided for in the contract.

X Q. 781. That is for the year ending——

A. June 30, 1908.

X Q. 782. This contract seems to fix the time at the 15th of November. You have the proportion of the bill, have you, in regard to that matter for the year ending June 30, 1908?

A. I have the proportion of the amount that would be charged.

X Q. 783. You say you have the proportion of the amount. What is that proportion?

A. About 15 per cent: a trifle more.

X Q. 784. And the account was how much?

A. $338.80.

X Q. 785. In other words, that for the year ending June 30, 1908 the water that the parties of the second and third part- diverted through the Helm canal by means of complainant's dam or weir amounted to 15 per cent of the whole that was diverted both by the canal company and by Miller & Lux? Is that it?

A. Yes.

X Q. 786. Is that $338.80 included in the revenues for that year that you have put in here, received by the canal company?

A. No.

744 X Q. 787. That is not included?

A. No.

X Q. 788. Well now are there any other revenues, Mr. Merritt, in addition to this one on account of this Exhibit E here, received by the canal company from any source that you have not included in the statement you have produced here in regard to the revenue of the canal company?

A. I have only produced a statement of the revenue from the water. I have not been asked to submit a statement of its revenues from other sources.

X Q. 789. Then I will ask you to do that.

(X Q. 788 read.)

A. There is no revenue which is not included in the statement. There are other items in the statement. You were asking whether there were any other revenues which are not stated in the statement. I say no, because I put in everything which was on the books at the time. This revenue that you are now speaking about, for carrying water, was not in the books at that time and therefore is not in the account.

X Q. 790. But you are stating the gross revenue up to June 30, 1908?

A. This matter had not been computed at that time.

(By Mr. TREADWELL:)

Q. We understand that, but you seem to intimate that there were other sources of income which were not included.

A. I did not intend to intimate that.

The MASTER: I understood him to say that all the gross revenues which appeared on the books were included in the statement.

The WITNESS: At the time the statement was made.

(By Mr. TREADWELL:)

Q. Whether from water or from any other source?
A. Yes, or from any other source.

(By Mr. LANGHORNE:)

X Q. 791. You have in the office, have you not, Mr. Merritt, the gauge readings showing the amount of waters that went through the complainant's canal, and also through the Helm Canal for the year ending June 30, 1908?

745 A. Yes.

X Q. 792. Will you please produce them.

(By Mr. TREADWELL:)

Q. I ask you, Mr. Merritt, if you made those gauge readings, or took them?
A. I did not.
Q. I ask if you know anything about their accuracy?
A. I do not.

(By Mr. LANGHORNE:)

X Q. 792. You made up the bill against the parties of the first and second part- in Exhibit E—they were made up on the basis of those gauge readings, were they not, Mr. Merritt?
A. I suppose they were. The entries that I have to make in the books are based on the report of the engineer.
X Q. 793. The gauge readings were made by the employés of the canal company, were they not?
A. Yes.

Mr. LANGHORNE: I ask that the witness produce those gauge readings in connection with the testimony that he has given, and the charge that has been made.
The WITNESS: For what period?
Mr. LANGHORNE: For the year ending June 30, 1908.

X Q. 794. I understand you to say there were no measurements made prior to that, of the Helm canal?
A. I didn't say that.
X Q. 795. You say you did not?
A. I did not; no.
X Q. 796. And if there were any measurements made of the Helm canal and of the complainant's canal prior to the year ending June 30, 1908, and since the construction of the Helm Canal, will you please produce those. Now in paragraph three of Exhibit E,—I will read that. (Reads.) I will ask you, Mr. Merritt, has the canal company, referring to paragraph three Exhibit E carried any water for the parties of the second and third part- or for either of them?
A. It has.
X Q. 797. During what year has it so carried water?
A. During the year ending June 30, 1908. It may have carried such water since that date, but I am not certain on that point.

746 X Q. 798. Did the canal company carry any such water referred to in this Paragraph 3 prior to the year ending June 30, 1908, that is, prior to June 30, 1907?

A. No. As I have already stated, all the water that was carried during that year was deemed to be the water of this company and was sold accordingly.

X Q. 799. And for the year then ending June 30, 1908, when it did carry water under Paragraph 3, did the parties of the first and second part- pay for such carrying?

A. The charge is ready to be made up. They have not paid as yet, actually paid.

X Q. 800. Have the bills been made out?

A. Yes, practically so. The bills have not been rendered, but a draft of the bills has been made out.

X Q. 801. Will you please bring in those bills.

(By Mr. TREADWELL:)

Q. You have the amount of the charge for carrying, have you not?

A. Oh yes, I have the amount of the carriage charge.

(By Mr. LANGHORNE:)

X Q. 802. How much is that?

A. $825.17.

X Q. 803. For how many miles of carriage is that calculated?

A. Various distances. In this connection I would like to correct my previous testimony, which was to the effect that the water was carried a little over three miles—three and a fraction miles. I find I was in error in that. I supposed at that time that all of the non-riparian lands which had been irrigated by water diverted by Miller & Lux was under the irrigation of the Poso Canal, but it appears that I was in error; that that land is distributed through three main divisions of the ranches, and a portion of it was carried as much as 30 miles. The average point of delivery for the Los Banos division was about 25 miles, and that was the basis on which the charge was made up.

X Q. 804. And it was carried into the Dos Palos canal?

A. It was carried into the Dos Palos canal.

X Q. 805. You remember that I asked you that question
747 and you said "No"?

A. That is what I want to correct now.

(By Mr. TREADWELL:)

Q. All your testimony upon that subject is really upon information?

A. Really upon information. That was my information at that time. It has since been discovered that there was an error in the data that was given to me.

(By Mr. LANGHORNE:)

X Q. 806. These bills which you say you have made up but have not delivered for the carriage of this water, do they show the different

distances and the prices charged and the amount of water carried for each distance?

A. My recollection is that they do show the distance carried and the number of feet.

X Q. 807. Will you produce those bills of those estimates? Will you give them as near as you can give them now?

A. I can't give them now.

X Q. 808. Now Mr. Merritt, in this Columbia canal which heads out of what is known as Willow Slough, and in regard to which there is a contract in evidence, one of the Exhibits made between the California Pastoral & Agricultural Co., Miller & Lux and the San Joaquin and Kings River Canal & Irrigation Co., and which was the subject matter of a suit in United States court—you know about that, do you not?

A. I do.

X Q. 809. Was not that a contract or arrangement made in regard to the San Joaquin and Kings River Canal & Irrigation Co. selling a portion of its waters to Miller & Lux to be delivered through the Willow Slough and into the Columbia canal?

A. I don't recollect now just what the language of that contract was.

X Q. 810. You remember the provisions of the contract between those parties as to the water, do you not?

A. I remember there were provisions in the contract.

X Q. 811. And briefly they seem to be that the San Joaquin and Kings River Canal and Irrigation Co. were entitled first to
748 775 feet of water out of the river, and that after they got that amount, Miller & Lux and the California Pastoral people were entitled to divert 120 feet from the river?

A. That is correct.

X Q. 812. And some disagreement arose between the parties as to the construction of that contract? Is that correct?

A. That is correct.

X Q. 813. And a suit was brought in the United States Court by the California Pastoral & Agricultural Co. practically to have that contract construed? Is that right?

A. That is true.

X Q. 814. And it was set up in the answer of Miller & Lux in that case, was it not, that when the river was so low that the California Pastoral people and Miller & Lux could not get the 120 feet provided for, that by an arrangement between Miller & Lux and the San Joaquin and Kings River Canal & Irrigation Co., the canal company sold to Miller & Lux water from out of the 775 cubic feet to which it, the canal company was entitled, and delivered the water so sold through the Willow Slough to Miller & Lux into the canal?

Mr. TREADWELL: Don't you mean that they could do that?

Mr. LANGHORNE: Yes, that they could do it.

X Q. 815. Do you remember that? Is that right?

A. I don't remember about the pleadings but about our practice. That has been our practice.

X Q. 816. That has been your practice?

A. Yes.

X Q. 817. That has been the practice of the San Joaquin and Kings River Canal & Irrigation Co., to let Miller & Lux have that water for the Columbia canal?

A. Yes.

X Q. 818. For how long have they been letting Miller & Lux have that water for the Columbia canal?

A. I don't know now how many years it has been, but it reaches back a number of years.

X Q. 819. As many as ten years?

A. I should think all of that.

749 X Q. 820. Up to what period?

A. How recently?

X Q. 821. Yes sir.

A. The probability is that they have used that privilege every year, more or less. But the superintendent has overlooked reporting that fact for two years past, and he has now instructions to look it up and see what the use was.

X Q. 822. When did he commence that examination?

A. I don't know how recently when he discovered it, myself.

X Q. 823. When did you discover it, Mr. Merritt?

A. I don't remember just when it was, but it was within a year or two.

X Q. 824. Well, you have an account on your books haven't you of this water furnished by the San Joaquin and Kings River Canal & Irrigation Co. to Miller & Lux to be delivered into the Columbia canal?

A. I have no separate account of that, no. It goes into the general accounts.

X Q. 825. It does not appear in the books?

A. Oh yes; the charges, when they are reported by the superintendent, appear in the books, if that is what you mean.

X Q. 826. Can you say now about how much water has been delivered to the Columbia canal by Miller & Lux?

A. No, I cannot.

Mr. TREADWELL: Do you want to know in what year?

Mr. LANGHORNE: We will take, say, for the year 1906.

A. I don't know what the facts are.

X Q. 827. I understand you to say that for the past two years no charges or collections have been made by the canal company?

A. I think it is two years.

X Q. 828. Now then, will you, at the next hearing produce that account, the Columbia Canal account, we will call it?

A. I don't know just what it is you are calling for.

X Q. 829. You say that you are now having made up data for bills against Miller & Lux for water furnished to them by the complainant, in the Columbia canal, for the past two years?

750 A. Well, do you want me to show just the last two years, or do you want me to show the entire period?

X Q. 830. I would like to have it including the year 1906.

A. I will endeavor to do so.

X Q. 831. Have you any recollection as to what that amounted to annually—the receipts?

A. About $3,000.

X Q. 832. Was that $3,000 included in your reports and statements here as to the revenues of the canal company for the several years?

A. I think not. I told the bookkeeper to eliminate that, and I suppose it was done.

X Q. 833. I suppose the San Joaquin and Kings River Canal Co. have employed men to take the gauge readings and measurements of the water so delivered to Miller & Lux into the Columbia canal, have they?

A. Yes, they are supposed to have done so. I take it for granted that they have done so.

X Q. 834. Have not those gauge readings been taken by men whose salary has been paid partly by Miller & Lux and partly by the canal company?

A. Yes.

X Q. 835. When I say "the canal company", I mean the complainant in this case.

A. I understand.

X Q. 836. Now then, Mr. Merritt, I don't know whether you testified that you knew—I think you did, that you knew of a little canal making out or heading from the reservoir or dam caused by the main weir of complainant on the San Joaquin river and running down along the northwest bank of the river, and shown apparently here on Exhibit 2. Do you remember testifying about that, that you knew of it?

A. Yes.

X Q. 837. Do you know the capacity of that?

A. I do not.

X Q. 838. And who owns or claims to own that canal?

A. Miller & Lux.

X Q. 839. And they take water through it do they not, from this river?

A. Yes.

X Q. 840. From behind the dam?

751 A. Yes, that is the only way they can reach some of the land.

X Q. 841. For how many years have they so taken it?

A. I don't know.

X Q. 842. Do you know what the name of that small canal is? Do you know by what name it is called?

A. No.

X Q. 843. Do they pay the complainant any money for that service through that small canal?

A. They have done so. I have not looked it up every year. I can remember looking it up, I think it was for the year ending June 30, 1906.

X Q. 844. My recollection is that when I asked you about that before, you said they did not; that they didn't pay anything.

A. No, I didn't say that. I said I could not tell from memory at that time.

X Q. 845. Have you looked it up?

A. I have looked it up. At least I have found a record, one that I looked up previously, and I found that fact, that they had made the payment. I am unable to state as to the fact since then.

X Q. 846. For the year ending June 30, 1906?

A. I am not positive about the date, but there was one year that I found a record in my office showing that that land had been irrigated and charged to them.

X Q. 847. You mean land that was irrigated from water carried by this small canal?

A. Yes.

X Q. 848. Had been charged to Miller & Lux by the canal company?

A. They hadn't looked it up for every year.

X Q. 849. You can bring in the account as to that small canal, can't you—the amount, the number of acres irrigated, and what they were?

A. I can bring in the account as to the lands that lie under that small canal.

X Q. 850. Well, were they charged for any other year than the one that you say that you know of?

752 A. Oh, I have no doubt that they were, but I can't tell just what the facts were.

X Q. 851. Was the water measured there at the head of that small canal?

A. We were not measuring the water in that particular year. That small canal, as you call it, is fed by the Helm Canal. If my recollection is not entirely at fault, it receives its water from the Helm Canal, and, therefore, any water measured into the Helm canal would include the waters that are delivered in that small canal.

X Q. 852. Have you been on the ground since the Helm canal was constructed?

A. Yes.

X Q. 853. Don't you know that this small canal which I am speaking of does not run out of the Helm canal, but runs directly from the river, just above the weir?

A. No, my recollection is the reverse, but I may be wrong. I don't recollect the situation distinctly, but that is not as I recollect it.

X Q. 854. You can make up, can you not, and produce an account showing what has been received by the canal company from Miller & Lux on account of water through that small canal?

A. As I said before, I can show you what land Miller & Lux have been charged for, and that will probably serve your purpose.

X Q. 855. Will that cover compensation for waters carried through this small canal?

A. If the charge against them showed lands lying under that small canal that could not be reached in any other way, naturally it would cover it.

X Q. 856. What you mean, I suppose, is that you don't know whether any segregation was made of the Miller & Lux irrigated lands, irrigated from the waters of the small canal, from those lands which might have been irrigated from other canals? Is that the idea?

A. What I mean is that I don't know what the records of the superintendent may show. And I don't know just what I may
753 be able to show. But the records that I have simply show the lands and acreages for which the charge was made to Miller & Lux, and the description of the land irrigated, without reference to the source of the water which irrigated those lands.

X Q. 857. In other words, Mr. Merritt, there is no separate account kept against Miller & Lux by the canal company, in regard to Miller & Lux's lands or any lands that are irrigated from the waters of this small canal that I have mentioned? Is that your testimony?—No separate account kept?

A. My testimony is that the records that came to me from the superintendent, and which are the only records of which I have any knowledge, do not show the source of the water which irrigates the land. They simply show the land irrigated.

X Q. 858. Yes, I understand. Who is the superintendent that has charge of that portion of the lands of Miller & Lux that would be irrigated from the waters of that small canal?

A. Mr. Ogle.

X Q. 859. What is his first name?

A. E. F. Ogle.

X Q. 860. How long has he been with the canal company?

A. You asked me as to the superintendent of Miller & Lux, did you not?

X Q. 861. No.

A. You asked who was the superintendent of Miller and Lux who had charge of those lands.

X Q. 862. Do you rely upon his reports in regard to lands?

A. No sir.

X Q. 863. Upon whose reports do you rely?

A. Upon the reports of the canal company's superintendent.

X Q. 864. Who is he?

A. Mr. J. F. Clyne.

X Q. 865. He is at present superintendent of the canal company?

A. He is.

X Q. 866 And how long has he been superintendent?

A. I think about two years.

X Q. 867. And he, I suppose, keeps a report of the lands
754 irrigated and with reference to the sources of irrigation?

A. Not always with reference to the sources of irrigation. Since we have been measuring water, yes, and so I suppose probably during all the term that he has been superintendent, he would have a record of the sources of irrigation.

(By Mr. TREADWELL:)

Q. If he did not have a record, he could tell, anyway?

A. Oh, he could tell, yes.

(By Mr. LANGHORNE:)

X Q. 870. Have you got those items of expense in regard to legal expenses?

A. Yes sir. (Producing.)

X Q. 871. Is it not a fact, Mr. Merritt,—before we go into that question, I will ask you a little farther on the other point—is it not a fact that this so-called waste water in several instances runs into what are called swamps or makes swamps, on Miller & Lux's land?

A. Yes.

X Q. 872. And is it not a fact that from those so-called swamps, that so-called waste water is carried in a canal to irrigate Miller & Lux's land?

A. I don't know just what the facts are.

X Q. 873. You don't know?

A. No. I am not positive of that.

X Q. 874. Now, you say you have some of the items in regard to legal expenses?

A. Yes.

X Q. 875. What is the first year that you have?

A. Ending November 25, 1906.

X Q. 876. The items of legal expenses given in the maintenance statement that complainant has introduced here for 1906 aggregate $22,377.15, do they not?

A. They do, including the legal expenses of the water rate suits.

X Q. 877. And you now produce what you say is the itemization of the totals going to make up that legal expense what item of $22,377.15?

A. Yes.

Mr. LANGHORNE: In conection with the testimony of this witness on cross-examination, the defendant offers this itemized statement in evidence.

755 (Marked "Defendants' Exhibits F.")

X Q. 878. Now this first item, the Canal Company vs. Stephenson, $2,688.87 as those moneys paid out during that year, in that case were they by the canal company?

A They were.

X Q. 879. And what are the items going to make up that expense?

A. I don't know now. I didn't know you wanted to go into that. You didn't ask me to.

X Q. 880. Is there anybody in the canal company that knows what that $2688.87 was spent for?

A. Of course I can find it out by looking at the record, but I can't tell from memory what those items were.

X Q. 881. Will you look that up and say how much was for counsel fees and so on?

A. Yes sir.

X Q. 882. We will pass that first item the- for the present. Now in the case of the canal company against Borland, the second item there, $9000, was not Miller & Lux also a party to that action, a party complainant to that action?

A. I think not.

X Q. 883. In that second item, the canal company against Borland, was not Miller & Lux also a party complainant in that suit?

A. So I understand, but I am not clear in my own recollection of the matter.

X Q. 884. What was the total expense paid out in the year ending November 25, 1906, by both complainants in that suit?

A. I have no record as to that here.

X Q. 885. Do you know whether the nine thousand dollars which you paid there was the entire expense for that year, or only a portion of the legal expense in that case for that year?

A. I am unable to state definitely now. That was not divided with Miller & Lux; but the form of your question would require me to state whether Miller & Lux had paid out anything of that kind for that year, and that I am not able to state without referring to
756 the records. This $9000 was not divided with Miller & Lux. It was an item that was paid to prevent the litigation, which it was estimated would cost a great deal more than that. This was paid out by the canal company alone.

X Q. 886. To whom?

A. To the Borland Land Company.

X Q. 887. And that is before Mr. Henry Miller bought it, or afterwards?

A. Afterwards.

X Q. 888. Then that $9000 was paid by the canal company practically to Mr. Henry Miller?

A. Practically.

X Q. 889. Under what arrangement?

A. I can't recollect the exact terms of it now, but it was for the purpose of settling a claim to the waters of the San Joaquin river which Borland had succeeded in establishing, and to get the reversal of which in the Supreme Court, would have entailed an expense of probably ten or fifteen thousand dollars, with an uncertainty as to the issue even then. In order to avoid the necessity of appealing the case and going through the litigation which would have to follow in order to get a reversal of the judgment in favor of Borland, Mr. Miller bought the lands and organized the Borland company, and the canal company paid this sum of $9000 to partly reimburse him for the expense which he incurred in order to preserve the company's rights.

X Q. 890. Was there any written agreement about that made with the Borland Land Co. or with Mr. Henry Miller by the canal company?

A. I don't recollect any written agreement.

X Q. 891. Was the matter brought before the board of directors of the canal company?

A. It was.

X Q. 892. And was the agreement that was made authorized by the board of directors of the canal company?

A. It was. If there was any agreement made, it was authorized.

X Q. 893. Were all the facts leading up to the expenditure of this $9000 set forth in that agreement?

A. I presume they were.

757 Mr. LANGHORNE: Will you produce that agreement Mr. Treadwell?

Mr. TREADWELL: Yes, sir.

(By Mr. LANGHORNE:)

X Q. 894. Is it not a fact, Mr. Merritt, that the interest of Miller & Lux in that Borland litigation was at least three-fourths more than the interest of the canal company—that is, in the Borland litigation?

A. I am unable to state of my own knowledge what the proportionate interest was.

X Q. 895. At that time Mr. Henry Miller was the president of the canal company, was he not?

A. He was.

X Q. 896. And this $9000, was any of it paid to Mr. Miller as part of the consideration that he paid the Borlands for the land which he purchased from them?

A. Well, he had previously purchased the lands in order to be in a position to make this agreement.

X Q. 897. Well, there was a lawsuit pending, of the canal company and Miller & Lux against Borland, as I understand it?

A. The lawsuit had been terminated by judgment in favor of Borland, which established certain rights in the river or in the waters that he had been pumping, and in order to prevent the canal company from losing that water that this judgment gave to Borland, Mr. Miller bought the land and acquired Borland's rights and made an agreement with the canal company giving the canal company what it had claimed, the right to divert 1200 feet of water; and this payment was to reimburse him in part for his outlay in the matter and thus avoid the necessity for expensive litigation.

X Q. 898. The outlay in the matter? What do you mean by that? Do you mean his outlay prior to his settlement of attorneys' fees and expenses of litigation, or in making the settlement with Borland?

A. The outlay in purchasing a property that carried with it a right—the right that the judgment had affirmed.

758 X Q. 899. Prior to this year, 1906, had the canal company paid out anything on account of counsel fees or other expenses in the matter of prosecuting that case against Borland?

A. My recollection is, yes.

X Q. 900. How much?

A. I don't know without referring to the records. The records will show.

X Q. 901. Will you please be prepared to state the next time, how much?

Mr. TREADWELL: We will admit that the canal company paid one-half and Miller & Lux paid the other half in the prior expense of that Borland case.

(By Mr. LANGHORNE:)

X Q. 902. Could you produce, Mr. Merritt, the entire Borland account as to this Borland case, of the attorneys' fees and expenses and other things that the canal company has paid, and how much Miller & Lux have paid?

A. I will see what I can do. That is, with reference to the Borland litigation?

X Q. 903. Yes sir. Now then, the next item. "Water Rate Contest." To what particular contest has that reference?

A. That means the suits with Stanislaus, Fresno and Merced, with reference to water rates.

X Q. 904. In that case the judgment of the circuit court was reversed by the Supreme Court of the United States, was it not, in the year 1904?

A. That is, in the Stanislaus case?

X Q. 905. Yes, in the Stanislaus case. You are not referring to that case?

A. I think that these expenses were with regard to the new case, but I am not positive on that point without looking at the records again. I have not refreshed my memory as to the details of these cases for a long time.

X Q. 906. Well, in regard to that will you find out which of those cases that refers to?

Mr. TREADWELL: There is no question but that it refers to the litigation that started in 1904.

759 (By Mr. LANGHORNE:)

X Q. 907. And that amount of $1599.72 was paid out during that year on account of that suit brought by the canal company against those counties in the state court at Fresno?

A. Yes sir.

X Q. 908. And that suit was decided against the canal company by the superior court of Fresno County, was it not?

A. I believe it was.

X Q. 909. And is now pending in the Supreme Court of California?

A. I believe it is.

X Q. 910. That was the case in which the canal company complained of the rates of Stanislaus County of 1896 and of the rates of Merced and Fresno of 1904?

A. I believe that was the basis of the suit.

X Q. 911. Now the next item, the canal company vs. Enterprise Canal & Land Co., I suppose it is; $1155.10. Miller & Lux is also a party to that case, is it not?

A. Yes.

X Q. 912. That was a suit brought in the superior court of Fresno County, was it not?

A. I believe it was.

X Q. 913. To enjoin the diversion from the San Joaquin river above Fresno Slough, and which diverted waters were carried across

Fresno Slough to lands on the south side of the San Joaquin River by the defendants? Is that the fact?

A. Yes.

X Q. 914. Now the judgment of the lower court was in favor of Miller & Lux, but adverse to the canal company, was it not?

A. I think that was the case.

X Q. 915. The canal company appealed to the Supreme Court of California, and that judgment was reversed, was it not, in the case reported in 142 Cal., page 208. Is that so?

A. I am not prepared to say where that will be found.

X Q. 916. Your attorney gave me this memorandum.

A. I have no doubt that it is correct.

Mr. TREADWELL: We will admit that that part of the judgment was reversed.

760 (By Mr. LANGHORNE:)

X Q. 917. Now then, the defendant in that case also took an appeal, did he not?

Mr. TREADWELL: That will be admitted.

A. I presume so.

(By Mr. LANGHORNE:)

X Q. 918. That is, took an appeal from that portion of the judgment which was in favor of Miller & Lux? Is that the fact?

Mr. TREADWELL: That is correct.

(By Mr. LANGHORNE:)

X Q. 919. And that part of the judgment which was against the defendant and in favor of Miller & Lux was affirmed by the Supreme Court of California, was it not, and reported in 145 Cal., page 652?

A. I have no doubt that is correct.

Mr. LANGHORNE: As to that case it is also agreed by counsel that the lower court granted a new trial as to all parties, and the order granting said new trial was affirmed by the Supreme Court, but as yet no new trial of the case has been had?

Mr. TREADWELL: That is correct

(By Mr. LANGHORNE:)

X Q. 920. Now this charge of $1155.10, is that a part of the entire expenses paid by both defendants?

A. Yes sir. It is this defendant's proportion of the payments which were made during that year.

X Q. 921. What proportion?

A. One-half, if I remember it. I have not the statement before me which shows that. It should have been entered on this statement, but it was omitted.

(By Mr. TREADWELL:)

Q. At any rate, the proportion is the same as that shown on your expenses for maintenance, of 1908?

A. Yes, that is Exhibit 16.

(By Mr. LANGHORNE:)

X Q. 922. Was one-half of the trial costs in the lower court charged to each complainant?

Mr. TREADWELL: I would say that one-half of the legal expenses on appeal, and also in the trial court, in this Enterprise case,
761 were divided equally between Miller & Lux and the canal company.

Mr. LANGHORNE: Now the next item, the canal company vs. Fresno Flume & Irrigation Co.; it will be admitted that that was a suit brought by the canal company in the state court at Fresno to enjoin the diversion by the defendant, of water from the upper San Joaquin rivers, and was decided against the plaintiff, the canal company, and is now on appeal?

Mr. TREADWELL: Yes.

Mr. LANGHORNE: Was the canal company the only party plaintiff to that suit?

Mr. TREADWELL: Yes.

Mr. LANGHORNE: Was Miller & Lux in that at all?

Mr. TREADWELL: No, they had no interest in it. That is, I will say in regard to that: there were two cases brought and tried together; one by the canal company against the Fresno Flume & Irrigation Co. and one by Miller & Lux against the Fresno Flume & Irrigation Co.; but the two cases were tried together, and by the same counsel, and the charges divided between the two equally, and this is the one-half that the canal company paid.

The MASTER: $668.25 is the one-half which the canal company paid.

Mr. LANGHORNE: The next item, the California Pastoral & Agricultural Co. vs. James Canal, $456.24?

Mr. TREADWELL: I would state that that action was brought by the California Pastoral & Agricultural Co., a foreign corporation, in the Southern District of California, at the request of the canal company and Miller & Lux, for the purpose of preventing the same diversions made by the James Canal Co. and the Enterprise Canal & Land Co. which were involved in the other suits that have been referred to. The case has never been tried, and is simply awaiting the result of the decision of the Supreme Court, at present in our favor in
762 the case of the Turner Estate against the Enterprise Canal & Land Co.

Mr. LANGHORNE: Were the expenses of that litigation for the year ending November 25, 1906, divided between Miller & Lux and the canal company?

Mr. TREADWELL: Equally, I believe.

The MASTER: And the $456.24 appearing in the statement is the one-half which the complainant paid?

Mr. TREADWELL: Yes sir.

Mr. LANGHORNE: I would like counsel to state how the canal company is benefited, or what would be the benefit by a judgment in that case?

Mr. TREADWELL: If the James Canal Co. and the Enterprise Canal & Land Co. are permitted to divert this water above the canal of complainant, they would take it all away from them. They would have no water at all. This suit was for the purpose of preventing them from diverting water in the river above the lands of the complainant.

Mr. LANGHORNE: Now suppose that the California Pastoral & Agricultural Co., being the complainant in that case, should get a judgment, they would have complete control of the judgment, would they not?

Mr. TREADWELL: No, they would not, because there is a contract between the two parties that provides that wherever any person attempts to take water out of the river adversely to the canal company or to Miller & Lux or to the California Pastoral & Agricultural Co., that they will jointly defend any suits that are commenced. And for that reason, any judgment that they obtain we believe would inure to the benefit of the parties. They could not sell out under us.

Mr. LANGHORNE: That contract is in evidence here?

Mr. TREADWELL: Yes.

Mr. LANGHORNE: There is no obligation on any of those parties to maintain any action for the benefit of the others, is there?

763 Mr. TREADWELL: Yes, there is an obligation in that contract that they shall jointly pay the expense of any suits. That is practically the language of it.

(By Mr. LANGHORNE:)

X Q. 923. Now the next item, the California Pastoral & Agricultural Co. vs. Miller & Lux and the canal company, $398.52. I will ask you, Mr. Merritt, is that the case which you have heretofore referred to in your testimony, which was decided in the United States Circuit Court?

A. Yes.

X Q. 924. Now is that item, $398.52, one-half of the expenses for that year?

A. Of the legal expenses of that suit.

Mr. LANGHORNE: I will ask you, Mr. Treadwell, if you have read the decision of the Circuit Court of Appeals in that matter, and also the late decision denying the rehearing of that matter.

Mr. TREADWELL: I have read the original decision but I have not read the opinion denying the rehearing, which was denied a few days ago. But I did not know that there was an opinion rendered. I will state this: that I took that very matter up, so far as the original case was concerned, and I find that the case as originally brought was for the purpose of construing the contract in a way which was deemed adverse both to Miller & Lux and to the canal company, as it prevented the canal company from selling water on the east side; so we considered it for its benefit. But subsequently the complainant in that case practically took back track and withdrew the claims that they made in that regard, and the real controversy from that time on was entirely with regard to the cross-bill which was filed by Miller & Lux against the California Pastoral & Agricultural Co.;

and the Circuit Court of the southern district decided the case against Miller & Lux on the cross-bill, and also rendered judgment against us for costs. Both parties appealed, but the canal company was not interested in that appeal, as I take it, except for the purpose
764 reversing the judgment for costs, which amounted to something in the neighborhood of a thousand dollars. Otherwise they were not interested in that appeal. That appeal resulted in a reversal of judgment against Miller & Lux, and also a direction to the trial court to enter a new judgment in its favor, and also to enter a proper judgment in regard to the costs in favor of both parties. But I find that the practice which grew up at the time the suit was commenced, of dividing the fees in the case equally between Miller & Lux and the canal company, the bookkeeper has kept right up; and I believe Mr. Langhorne is correct when he says that the costs on appeal should not have been charged in that proportion; that it should have been charged a much less proportion against the canal company. And I discovered that a few days ago, and find that that is correct; that they were not interested in that appeal, at all, as far as the appeal was concerned, except for the purpose of reversing the judgment for costs.

The MASTER: What amount would be charged against the canal company?

Mr. TREADWELL: As to how much that should be, we will reserve for the present. I think it should probably be very small. And it may be that when we take it up with Miller & Lux, that they will say that they will pay it all; because it is not very large. But I don't believe that it is the fault of the bookkeeper. He has simply kept it up from instructions to divide it in half, without having any information that the situation had changed in regard to the costs.

The next item, Turner Estate against Borland. I ask counsel for complainant to state in what manner the complainant canal company was benefited by the suit of the Turner Estate against Borland.

Mr. TREADWELL: In regard to that I would say that an adverse judgment had been rendered in the county of Fresno against
765 the canal company and in favor of Borland, very materially cutting down the appropriation of the canal company, and it was believed that if the matter could be again re-tried in another case, that a different conclusion would be reached; and for that purpose they obtained the consent of the Turner Estate, which owned land also down the river and in Merced county, and which therefore could bring suit in Merced county; and their consent was obtained to bring another suit against the Borland company.

Mr. LANGHORNE: I ask counsel if the canal company, who, he says, got the Turner estate to bring the suit against Borland, ever had any contract with the Turner estate controlling the judgment in its behalf that the Turner estate might get or expected to get?

Mr. TREADWELL: Well in regard to that I would state that I am not certain whether there was such a contract or not.

Mr. LANGHORNE: I would like to have you find out that positively;

because unless there was such a contract I should take the position that the expense was not justifiable against the canal company.

Mr. TREADWELL: I think the likelihood, however, is that Miller & Lux, for the purpose of getting the benefit of the matter, both for itself and for the canal company, probably had a contract to purchase some of the land of the Turner estate, and they did subsequently purchase land of them which would carry the judgment—the effect of the judgment—that it gets. I have always supposed that Miller & Lux in that regard was always acting in a fiduciary capacity owing to the relations between it and the canal company, and that it could be compelled to give the canal company the benefit of the judgment.

Mr. LANGHORNE: That was a contract or a purchase by Miller & Lux on their own account, was it not?

766 Mr. TREADWELL: They probably used the Las Animas & San Joaquin Land Co.; because Mr. Miller, for the purpose of protecting both Miller & Lux and the canal company, buys land in his own name, because some of the people of Miller & Lux do not care to have the assets of that company increased.

By Mr. LANGHORNE:

X Q. 925. Mr. Merritt, that item, the Turner estate against Borland, $781.78, is that the total expense for that year, the total legal expense for that year?

A. It is one-half of the expense, as I believe.

X Q. 926. Did you look into the matter to find out?

A. I didn't look at that particular item to see whether that was covered by the previous statement that we had made or not. I supposed that all of these items were explained by the statement of the legal expense account ending June 30, 1908, in the proportion as stated.

X Q. 927. There is no mention of Turner estate against Borland in this item.

A. It should have been stated here.

Mr. TREADWELL: The Canal company against Borland was one-half of the 1908 statement. The probabilities are that this is one-half.

(By Mr. LANGHORNE:)

X Q. 928. I understand the witness is not certaain about it, whether any portion of the expense was charged against Miller & Lux in the case of the Turner estate agains- Borland.

A. Subject to correction I will say it was.

Mr. LANGHORNE: The next item, the Turner estate against the Enterprise Canal & Land Co., $672.56; I ask counsel if that case is not in about the same condition as the case of the Turner estate against Borland?

Mr. TREADWELL: It is exactly the same except that in that case the case was tried—I am not sure whether the Borland case was or not—and judgment rendered in favor of the Turner estate enjoining defendants from taking any water from the river at all, and that is now on appeal to the supreme court.

767 Mr. LANGHORNE: I ask counsel if there is any contract existing by which the canal company has any control or interest in the judgment obtained by the Turner estate, and which they claim in that case?

Mr. TREADWELL: In that regard I would have to answer the same as before, that I don't know whether any express contract is in existence or not, but that I believe that Miller & Lux or the Las Animas & San Joaquin Land Co., acting in the interest of the canal company and Miller & Lux had some kind of a contract by which they got some interest in that land so that they could control that judgment. The exact nature of it I don't know.

Mr. LANGHORNE: You don't know of any contract by the canal company which would secure the canal company's rights, do you?

Mr. TREADWELL: Except by enforcing it, owing to Mr. Miller's relations with the canal company.

(By Mr. LANGHORNE:)

X Q. 928. Now the next item, Miller & Lux and others against Stevinson, $1552.92. Was the canal company a party to that suit, Mr. Merritt?

A. I hesitate to answer as to those matters because the facts are not clear enough in my mind. I don't know whether I can state positively.

Mr. LANGHORNE: I will ask your counsel if he can enlighten us.

Mr. TREADWELL: I think that probably that relates to suits brought in the southern district of California, in the circuit court, and the canal company was not a party; but my recollection is that they were separate suits; that is, Miller & Lux filed one and the Las Animas & San Joaquin Land Co. filed one, against Stevinson; that they were both separate suits. That is my recollection; and the expenses of that litigation generally were divided between the parties, Miller & Lux one-third and the canal company two-thirds, and this item here, of $1552.92 is the canal company's share of that litigation.

768 Mr. LANGHORNE: Stevinson claims water below the dam of the canal company, does he not?

Mr. TREADWELL: Yes, sir.

Mr. LANGHORNE: To take it out of what is known as the east side canal?

Mr. TREADWELL: That is correct.

Mr. LANGHORNE: What was the nature of that suit? Was it not to quiet title.

Mr. TREADWELL: The purpose of it was to determine the amount which he was entitled to take, and to enjoin him from taking any more than he was entitled to take.

Mr. LANGHORNE: Then it was practically a suit to quiet title as to his claims against the——

Mr. TREADWELL: That is it, exactly; to determine what the nature of his claim was.

Mr. LANGHORNE: His claims against the canal company and Miller & Lux?

Mr. TREADWELL: Yes. He made certain claims against the canal company, and insisted on the canal company sending water down to him, and all that kind of thing. In fact, he had commenced some suits for that purpose.

Mr. LANGHORNE: Are those suits still pending, undecided?

Mr. TREADWELL: They are still pending, undecided.

Mr. LANGHORNE: Has testimony been taken?

Mr. TREADWELL: No sir; they are all waiting the determination of the case of Turner against the East Side Canal & Irrigation Co., which will determine the entire matter.

Mr. LANGHORNE: Then this expense of $1552.92, was that one-half of the total expense of that year?

Mr. TREADWELL: No sir; I think it is two-thirds. I think the Stevenson litigation growing out of that matter was charged two-thirds against the canal company and one-third against Miller & Lux. Originally the Stevenson case against the canal com-
769 pany alone, and of course it was charged against the canal company, but when these backfire suits were brought against Stevenson by the canal company and Miller & Lux, the canal company was charged two-thirds and Miller & Lux one-third, as I remember it, of the expenses.

Mr. LANGHORNE: Is it not a fact that in that case Miller & Lux really claimed the right to take all the waters of the San Joaquin river flowing down to their lands, on the ground of their being riparian owners.

Mr. TREADWELL: Of course I know they don't claim that.

Mr. LANGHORNE: Don't they claim more waters than the canal company——

Mr. TREADWELL: Why no, the canal company by its contract with Miller & Lux, which Miller & Lux have never attempted in any way to set aside, has the right to take in the neighborhood of 1200 or 1300 feet of water out of the waters of the river before Miller & Lux can take anything.

Mr. TREADWELL: Miller & Lux have never claimed anything adversely to the amounts that the canal company is entitled to take under these contracts with it, and those rights are all superior to any rights of Miller & Lux.

Mr. LANGHORNE: As to the case of Stevenson, I have never seen the record and I would like to know the relative proportion of the rights claimed by the canal company and Miller & Lux as against Stevenson.

Mr. TREADWELL: That is rather a difficult question to answer, but I will state this, that Miller & Lux claims as against Stevenson as an individual, as an owner of riparian lands, that the water should be divided between them in proportion to their ownership of riparian land. Stevenson, however, also claims as a proprietor on the river; and of course if he has appropriated and taken adversely for five years, Miller & Lux admit that he has a right to do so.
770 That is a question then of determining what that amount is. As between the canal company and Miller & Lux, and I could not state very well as to whose rights in the river are the

greatest. I am not sufficiently familiar with the river to state whether the prior rights of the canal company as defined by these agreements are greater or less than the residual rights of Miller & Lux.

Mr. LANGHORNE: I will ask counsel why in this item of Miller & Lux and the canal company against Stevenson, $1,552.92, the canal company has charged itself with two-thirds of the expense and Miller & Lux with only one-third.

Mr. TREADWELL: The reason of it is simply this, that the canal company could be hurt by the adverse claims of Stevenson and the East Side Canal, for the reason that they had filed a suit away back in 1898, and they were of course, limited to whatever they had appropriated for five years prior to that time; but Miller & Lux cannot be hurt at all, hardly, by the Stevenson people or by the East Side Canal and Irrigation Co., because the great bulk of their land is above the land of Stevenson and the East Side Canal & Irrigation Co., and is riparian land, and they are entitled to take out all the water of the river on this riparian land, because their diversion being below the riparian land, was not adverse to the riparian land which Miller & Lux have. For the reason that it owns some small quantity of land—relatively small, but still large, below—at the point of diversion of the east side canal, and as to that it is interested in limiting the appropriation of the East Side canal, and therefore should bear some of the expense. For that reason it was charged with one-third of the expense.

(By Mr. LANGHORNE:)

X Q. 929. This item of $1552.92 is two-thirds of the total legal expense of that year, Mr. Merritt?

A. I presume that is correct and subject to correction, I will say yes.

771 X Q. 930. I would like to say, Mr. Merritt, that I would like for you to be particular about these matters, because we are taking up a great deal of time now.

A. I am very sorry that this statement does not show those facts. It should have done so. It is an oversight that it does not. When I saw that the apportionment was not there I thought it didn't matter, because I thought it was all shown in the previous statement that we have filed. But I see it is not covered by that item.

X Q. 931. Now then, the next item, the Eastwood and North Fork agreements, Mr. Merritt, $1380.47; those are the agreements, are they, that are already in evidence?

A. Yes.

X Q. 932. Is it not a fact that the canal company is not a party to those agreements?

A. Was not made a party to those agreements?

X Q. 933. Was not made a party to those agreements.

A. That is the fact, that they were not made a party to those agreements.

X Q. 934. I will ask you then why any charge was made against them.

A. Because they derived a benefit from the agreements.

X Q. 935. Well, in what way? Is that charge of $1380.47 the entire cost of the legal expenses of making those agreements?

A. No.

X Q. 936. How much of the whole is it?

A. Three-fourths.

X Q. 937. Do you know why it is that they were charged with three-quarters of that expense?

A. Because it was deemed that that was a just proportion, in view of the benefit that they derived from the agreements.

X Q. 938. Is there any contract providing that the canal company shall receive any benefit from or be protected in any way by the matters provided for in those East Side and North Fork agreements?

A. I am not aware of any.

X Q. 939. Now you have got an item, Miller & Lux ac-
772 count, "expenses Accrued and Unpaid" at the date of the annual meeting included in fiscal year 1907, $1,813.62." What sort of expenses were those?

A. Of the same nature as the expenses that are enumerated above, and they were bills that were known to have accrued but had not been paid at the time of the annual meeting, and it was desired to make a payment to Miller & Lux approximately covering their share of their indebtedness up to that time; therefore, a round amount was paid to Miller & Lux; and after deducting these items which had accrued at that time and for which Miller & Lux had made payment, this amount was left over, of the amount paid them, which was to apply on the bills soon to be paid.

X Q. 940. This has reference to legal expenses?

A. Yes. You will find it in the next year's statement, that this amount is credited against the disbursements made by Miller & Lux for these joint litigations.

X Q. 941. In the year ending November 25, 1907?

A. Yes.

X Q. 942. You have given it then in both statements?

A. I have given it as a debit in one case and a credit in the other, yes.

X Q. 943. Can you segregate that in some way, showing what goes to make up that item of $1,813.62—I mean for what items it is?

A. As I say, this was the balance of the round amount that was paid to Miller & Lux just before the annual meeting in order to get the books approximately right at that date, and applied on the bills that they paid soon thereafter, but which had accrued and were really due at the date of the annual meeting. Now those bills are stated over here in the next year's statement.

X Q. 944. So that with passing those bills or regulating them it will cover the regulation of these?

A. Yes. In our next year's statement I give the items that were paid out on our joint account, but deduct from that
773 the amount that Miller & Lux had paid for the previous year, this $1,813.62, and also deduct the amount that was due

and unpaid to Miller & Lux at the end of the year 1907, November 25, 1907, and the same for those amounts deducted from the total payments made by Miller & Lux for those accounts during that year, leaves the account that was actually paid to Miller & Lux by the company during that fiscal year.

X Q. 945. Now then, you have the next items, "General Services, Records lost in the Fire, $1,309.15." Did you state what those are?

A. No, the explanation of that item is this: That when we were reconstructing our books after the fire, we found a charge for a payment to Mastick, having been applied to Mastick, of $1,309.15, which was of course a legal expense, but the only way to determine what suits that bill represented was to get the vouchers, and every voucher was lost in the fire and every one of the records was lost in the fire, so that we were unable to find what suits those payments applied on. There was a statement at that time and a settlement and the suits on which they had rendered services were all stated in their bill, and of course if the vouchers had been available——

X Q. 946. They had been the attorneys during these various cases which you have testified to?

A. Yes.

X Q. 947. For several years, had they?

A. Yes, for a number of years.

X Q. 948. So that there is a possibility that that item here of $1,309.15 may be included in some of these other items?

A. Well, hardly, because we had annual settlements with them.

Oh, you mean these other items that have been stated here?

X Q. 949. Yes.

A. Oh, no, no, that was impossible, because those items that are stated there for these joint accounts with Miller & Lux are all taken from Miller & Lux's books and when we paid Mastick the
774 $1,309.15, of course we didn't pay them for any services in the bill which they had also rendered to Miller & Lux.

X Q. 950. So all these items that you have made up to November 25, 1906, were made up from Miller & Lux's books?

A. The statement not only in that year but in every year as to litigation for joint account is made up from Miller & Lux's books, because our practice is to charge all expenses for litigation for joint account into Miller & Lux's books. Miller & Lux carry them in their books until the end of the fiscal year, and they collect from the canal company its proportion of the expenses.

X Q. 951. Miller & Lux have charge of the litigation of the canal company?

A. Oh, I don't know as I would say that, that they have charge of it; but for convenience it is carried in their books.

X Q. 952. And that is the only explanation you have of this item of $1,309.15?

A. Yes, it was for legal services and expenses, according to the bill of Mastick, $1,309.15, the total of which appears in the books, no item of which appears, the voucher having been lost, and I cannot now state what those items were.

X Q. 953. Then the next item is the same, "General Services, $1,396.95." Was that record lost in the fire too?

A. No, that is just the total of the various items of litigation, which I do not recall now in detail. I did not suppose that you wanted all of those small matters.

X Q. 954. That was paid out, was it, this year?

A. Yes.

X Q. 955. You have the items of that?

A. Yes, I have the items of that on the books.

X Q. 956. Now, then, in regard to this account of 1906, Mr. Merritt, we pass that first item, the canal company versus Stevin-
775 son. There is something that will have to be looked up by counsel.

Mr. TREADWELL: Subject to our objection as to any proof as to the amount we paid for rights of way we are willing to admit that the company has never paid anything for right of way except the amounts testified by the witness to have been paid to Bensley and others at the time of the purchase of the property from the old company, and the benefits that Miller & Lux may have got, if any, by virtue of the contract which has been introduced in evidence with Miller & Lux, and the amount paid Wagner, testified to, by Mr. Merritt.

Mr. LANGHORNE: That is satisfactory.

Mr. TREADWELL: Subject, however, to our right to correct this if we find it is incorrect.

Further hearing adjourned to Monday, November 2, 1908, at 10 a. m.

776 MONDAY, *November* 2, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of CHARLES Z. MERRITT resumed:

Mr. TREADWELL: In regard to Exhibit F, I find that the first item on it, the canal company against Stevinson, is an error of the man making it up. It should have been Stevinson against the canal company. I have made out a new exhibit, correcting that, and also giving the proportions in which the expenses are charged against Miller & Lux and the canal company; and I would suggest that this be put in evidence, either as a supplementary exhibit or as a substitute for Exhibit F.

The MASTER: I think the best way would be to withdraw Exhibit F and file this in its place as Exhibit F. The original exhibit F will be considered withdrawn, and this will be filed as Exhibit F.

Mr. LANGHORNE: Subject to our same objections and exception.

X Q. 957. Mr. Merritt, in regard to the item on Exhibit F, "Canal

Company against Borland," you stated that you would produce the entire account as to that matter. Have you got that?

A. I have here a statement of the total disbursements for account of the company against Borland and the Turner Estate against Borland. The total disbursements in the former account are $5,216.35; in the latter account, $1,842.52.

X Q. 958. Is that $5,216.35 included in the $9,000 mentioned in Exhibit F?

A. No.

X Q. 959. What does this $5,216.35 include? What was
777 it expended for?

A. Those were legal expenses paid by Miller & Lux and entered in their books, and the $9,000 never went into the books at all.

(By Mr. TREADWELL:)

Q. He asked what it was for?

A. I can't state positively, for I have never examined the account, and there was no time to make up an itemized statement of account Saturday afternoon.

(By Mr. LANGHORNE:)

X Q. 960. Half of that legal expense, $5,216.35, was charged to and paid by the canal company, was it not?

A. Yes.

X Q. 961. Well, was that payment prior to the year ending November 25, 1906?

A. The $5,216.35, do you mean?

X Q. 961. Yes.

A. No. Well, I don't know. I can't state anything about that, because I have never seen the itemized account.

X Q. 962. What I mean to say is, do I understand you now that no portion of this $5,216.35 is included in this $9,000 in Exhibit F?

A. That is correct.

X Q. 963. And that the $9,000 represents everything that was charged to the canal company during the year ending November 25, 1906? Is that correct?

A. No, that is a single item which is covered by the contract that you asked me to bring up.

X Q. 964. Where is that contract?

A. It is ready to be presented when you call for it.

X Q. 965. I asked you to produce it the other day?

A. I didn't have it then. You asked me to bring it this morning. I have done so and you have not called for it yet, this morning.

Mr. LANGHORNE: The witnesses produces the agreement asked for, namely, agreement dated the 27th of September, 1906, by the Borland Land Co., party of the first part, and the San Joaquin and Kings River Canal and Irrigation Co., Incorporated, an incorporation, party of the second part. Counsel for defendants offers
778 the agreement in evidence in connection with the testimony of this witness, as Exhibit G.

(Marked "Defendants' Exhibit G.)

X Q. 966. I ask you, Mr. Merritt, if at the time that Exhibit G was executed, whether or not Henry Miller had acquired all the interest of what is known as the Borland Land Co.?

A. Yes.

X Q. 967. And he was at that time the Borland Land Co., was he not?

A. Virtually.

X Q. 970. And that agreement refers to certain disputes that it is claimed had arisen between the Borland Land Co. and the canal company; and by the canal company I mean the complainant and its predecessors. What was the nature of those disputes?

A. I suppose the disputes referred to were disputes between the canal company and Borland.

X Q. 971. There was no dispute, was there at the time that agreement was made, between the Borland Land Co. and the canal company?

A. Except as the Borland Land Co. was the successor of the rights of Borland, and it therefore inherited whatever disputes Borland had.

X Q. 972. In other words, I suppose that when Mr. Henry Miller purchased the Borland interest, that that lawsuit of the canal company against Borland was dismissed? That was a part of the settlement?

A. I don't know whether that was done at that time or not. I am not personally conversant with the matters connected with the interests of that suit. I didn't have personal knowledge of it, and I can't testify.

X Q. 973. You don't know what those disputes were that were settled by that agreement?

A. Only as I have already stated, that I understood that they were disputes that the company had had with Borland, and that that contract with the Borland Land Co. was regarded as making Mr. Miller the successor of Borland.

X Q. 974. You stated, I believe, at the last hearing, that
779 that agreement was authorized by the directors of the canal company. Is that so?

A. That is true.

X Q. 975. Before that agreement was entered into, was there any investigation made by the directors or by any of the officers of the canal company in regard to the facts leading up to that agreement?

A. Yes.

X Q. 976. Are they matters of record or report?

A. Yes, there is a resolution of record reciting the reasons for the contract and authorizing the contract. Before that resolution was passed, the facts were fully stated to the board and discussed, and the records will show that.

X Q. 977. Does that resolution set forth substantially the merits of the claim by the Borland Land Co. against the canal company as to that matter?

A. I don't know just how to answer that because I don't know

just what you mean, and I don't remember clearly the language of the resolution.

X Q. 978. Well now, you don't remember clearly. Is it a very long resolution?

A. About one page in the record book.

X Q. 979. Will you produce that resolution?

A. I have the resolution here ready to read it.

X Q. 980. Is there anything of record or on file in the office of the canal company setting forth the merits of the claim of the Borland Land Co., that is owned by Mr. Henry Miller, as against the canal company, and to purchase which claims this $9,000 was paid? I will ask you if you have anything of record which will show the merits of the claim of the Borland Land Co. as a basis for the payment to that company by the canal company of this $9,000, that you will produce it.

A. I am not aware of any such record, other than the one that I have produced. In making the records of that meeting I did not attempt to reproduce all that was said. I only recorded what was done.

780 X Q. 981. What other matters have you brought this morning, Mr. Merritt?

A. I think that is about all.

X Q. 982. You were to get some *guage* readings of the water, and so on, of Miller & Lux, and the Las Animas Company, of waters which were carried by the complainant canal company. Have you got those?

A. No, I didn't bring those *guage* readings.

Mr. TREADWELL: In regard to that, Mr. Langhorne, I will say that the man who knows all about that matter, and the only man now in the employ of the company who does, is the engineer, and he is the man who should testify to that. This witness does not know anything about those *guage* readings, whether they are correct or whether they are not correct. I agree to give you all the information you ask for in regard to water taken into that head gate or through the Helm Canal. If you are not satisfied when you have examined this man, then I think it will be proper for you to come back and examine Mr. Merritt, but I don't think there will any good come about by your trying to get it out of Mr. Merritt.

(By Mr. LANGHORNE:)

X Q. 983. Have you those bills which you said you would produce, going to show the amount of $825.17?

A. No. The bills that I referred to in my previous testimony were bills that were yet to be rendered. I think I stated to you that the engineer made a report to me which would be the basis of the bills; and I find this morning that he is still checking those reports before finally handing them in, for the purpose of having the entries and the bills made, and I left that matter in his hands because it was not yet fully verified. He will be the better witness as to

those matters, at any rate, because I could only testify as to what he has reported.

X Q. 984. Now in regard to the Columbia Canal, you said you would produce the account, including 1906, of the waters furnished Miller & Lux for that canal, on the east side.

781 Mr. TREADWELL: Now in regard to that I would state, Mr. Langhorne, in order to shorten the record, that the witness now has got that for a certain number of years, but he has not testified that it covers all the years that the charge has been made for; and you had better put it in all at once. The superintendent's books will show for every year. And if you prefer that we will put it all in together and allow Mr. Merritt to be recalled at any time with regard to that.

Mr. LANGHORNE: All right.

X Q. 985. Now, Mr. Merritt, in regard to the contract as to furnishing waters to Miller & Lux to be carried into the Columbia canal, did I understand you to say that that contract was not in writing?

A. I don't think I made any such statement as that. You asked me according to my recollection whether one of the contracts between Miller & Lux and the California Pastoral & Agricultural Co. and the canal company, which had been filed as an exhibit, did not make some provision of that sort, and I told you that I did not recollect at the time. That is all I can say now.

X Q. 986. Well, you testified, though, at the last hearing, that there was an arrangement or contract by which this water was sold by the canal company to Miller & Lux to be delivered into the Columbia canal on the east side.

A. I told you that that was the practice, whatever the contract might show.

X Q. 987. Was there a contract?

A. No. I told you that it was the practice to charge them. I don't recollect if it provides in the contract covering that point or not, although there may be such a provision.

X Q. 988. There is none in that contract.

A. There is none?

X Q. 989. No, there is no provision as to the sale of waters. You were a witness in that California Pastoral case, were you not?

A. I am not sure. I don't know which case you mean.

782 X Q. 990. The case of the California Pastoral & Agricultural Co., Limited, against Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Co., in the United States Circuit Court?

A. Very likely. My deposition was taken in a good many cases, and I presume it was in that.

X Q. 991. I will refresh your memory and ask you whether the following questions were not asked you and whether you did not make the following answers in that case about this matter. I read from the record in that case, which is numbered 1508 in the United States Circuit Court of Appeals:

(By Mr. TREADWELL:)

Q. Will you say what agreement exists between the San Joaquin & Kings River Canal & Irrigation Co., a corporation, and Miller & Lux, a corporation, at any time since 1898, with respect to the furnishing of water by the canal company to Miller & Lux through the Lone Willow Slough?

A. The agreement between them is that whenever the water in the San Joaquin River is so low that it does not furnish more than 775 cubic feet per second to the San Joaquin & Kings River Canal & Irrigation Co. at the head works, that Miller & Lux may take the water which they use, through Lone Willow Slough, provided always that their right to use water at all is subjected to the rights of the canal company and its customers, the demands for water by the customers of the canal company for use on the Westside.

Q. How long since such an arrangement existed?

A. Since 1899.

Q. During that period, has water ever been furnished to Miller & Lux by the canal company under that arrangement through Lone Willow Slough?

A. Yes sir.

Q. In how many years since 1899?

A. I believe every year.

Q. And Miller & Lux pay for that water?

A. They do.

Q. To the canal company?

A. Yes sir.

Q. Have you with you, Mr. Merrit, any report of the gauges, river or canal?

A. Yes sir, I have reports for the dates, from August 1st to August 5, inclusive, 1903."

I will ask you whether you did not in that case so testify?

Mr. TREADWELL: I would suggest that counsel is not even stating or claiming that he is endeavoring to impeach the witness. If he wants to ask the witness specifically any question as a basis for impeachment, then if he answers it wrongly, he can impeach him.

Mr. LANGHORNE: I asked him if there was a contract and he said he was not sure.

Mr. TREADWELL: I submit that he did not. He was asked if he testified at the last hearing that there was a contract.

783 The MASTER: I do not understand that counsel is endeavoring to impeach the witness, but simply to refresh his memory.

(By Mr. LANGHORNE:)

X Q. 992. Did you so testify?

A. I have no doubt that I did.

X Q. 993. In that same case where you were a witness and when you were being cross-examined by Mr. Willard, I will ask you whether the following questions were not asked by him of you and whether you did not make the following answers to his questions:

"X Q. How was that arrangement that you speak of made, Mr.

Merritt—the agreement between Miller & Lux and the canal company in regard to the use of water and the payment for it?

A. It was a verbal agreement. I don't remember now exactly as to the details of the original agreement, but as I now recollect it, Mr. Nickel and I talked about the matter in this office and I presume Mr. Nickel and Mr. Miller talked about the matter—but I was not present at that time—and decided that in equity the canal company ought to make a charge against Miller & Lux for whatever water they used on the east side when the stage of the river was below the point where it would furnish 775 cubic feet to the canal company; and accordingly that was done without any agreement to that effect—without any written agreement.

X Q. Was it ever acted upon by the board of directors of either corporation?

A. Not so far as I can recollect."

I ask you, Mr. Merritt, whether you did not so testify on that occasion?

A. I have no doubt that I did, for those were the facts.

X Q. 994. At that time, namely, at the time referred to in your testimony just read to you, that is, as to this arrangement about water furnished by the canal company to Miller & Lux on the east side, for whom was Mr. Nickel acting?

A. He was acting for both, as far as that is concerned. In this particular conversation I suppose he was considering the matter from the standpoint of Miller & Lux, and I was considering it from the standpoint of the canal company, if there could be any division of interests.

X Q. 995. This Mr. Nickel referred to by you is the gentleman, Mr. J. LeRoy Nickel?

A. He is the same man; and he was the vice-president of both corporations.

X Q. 996. And this Mr. Miller referred to by you in your testimony is the Mr. Henry Miller, president of the corporation?

784 A. Yes sir. When you asked me as to an agreement, I was referring to the written agreement that he had filed.

X Q. 997. I understand, and I thought that you had that in mind.

A. The fact as to a verbal agreement is as I stated in that testimony.

X Q. 998. Now that is all, so far as you know, Mr. Merritt, is it, as to any agreement between the canal company and Miller & Lux and the sale by the canal company of any of its water to Miller & Lux for use on the east side of the San Joaquin river?

A. Yes.

X Q. 999. Has there been any contract between the canal company and Miller & Lux, or between the canal company and Mr. Henry Miller, or between the canal company and the Las Animas & San Joaquin Land Co., or between the canal company and any person, other than the contract of May 18, 1899, with relation to the use of the waste or surplus waters from the canals of the canal company?

A. I believe not, except as it is possible that some of the early contracts may have touched upon that subject.

X Q. 1000. My question is, since that contract?

A. Oh, since 1899?

X Q. 1001. Yes.

A. No, there has been no contract since 1899.

X Q. 1002. That is then your testimony, that in the year 1904 there was a resolution of the canal company fixing the rate for irrigating on uncultivated lands, and that Miller & Lux did make some payment to the canal company under that resolution? Is that so?

A. That is true That resolution was passed. Miller & Lux made application for water under it, and they were supplied and it was paid for.

X Q. 1003. But with that exception there has been nothing that would have any reference to the action by the canal company in regard to charging any person or corporation for the use of
785 the so-called waste or surplus waters.

A. Not so far as I now recollect.

X Q. 1004. Now as to this exhibit E, the contract relating to what I understand is the Helm Canal, owned by Miller & Lux, and relating to the carrying of the waters of the Helm Canal and the Las Animas & San Joaquin Land Co. through the canals of the land company, I will ask you if it is not a fact that before the making of that agreement, exhibit E, the canal company had carried water for Miller & Lux in its canals—that is, water claimed to be owned by Miller & Lux through its canals—and delivered the same into the Poso Canal, and also into the Dos Palos canal, and which waters had not been taken out of the river through the Helm canal?

A. No sir, that is not true. I never heard of anything such thing, and I don't for a moment believe that it ever occurred.

X Q. 1005. Is it not a fact that since that agreement, exhibit E, was made, waters have been carried by the canal company through its canals and delivered into the Poso canal and delivered into the Dos Palos canal for Miller & Lux or for the Las Animas & San Joaquin Land Co. that had not been taken out of the river through the Helm canal?

Mr. TREADWELL: Of your own knowledge.

A. I can't answer it of my own knowledge. I don't know.

(By Mr. LANGHORNE:)

X Q. 1006. Well, do you know whether or not on October 18, 1908, the fact was as stated in my last question?

A. I don' know it.

X Q. 1007. How is it determined by the canal company as to when Miller & Lux are entitled to so-called waste or surplus waters?

A. If there is water in the canal for which there is no demand for the irrigation of cultivated lands, it has to be disposed of, and under our agreement with Miller & Lux, the superintendent turns
786 that water out on Miller & Lux's land on points agreed upon, consulting them as far as possible as to where it is most convenient for them to have it turned out.

X Q. 1008. And does Miller & Lux make application for this waste or surplus water?

A. No. I don't know what some superintendents may say to the canal company's superintendent as to turning out surplus water, if he has any at this or that place; but there is no practice, so far as I know, of making requests for surplus water, except that they designate places, I suppose, where they would prefer to have it turned out, if there is any. They are not in the habit of applying for surplus water; but if we have surplus water and we have to dispose of it, they in justice must have an option as to where it should go.

X Q. 1009. At what points are these surplus or waste waters, so-called, turned out?

A. I am not in a position to testify on that point.

X Q. 1010. Are separate records kept by the canal company of the waters taken by it from the San Joaquin river for irrigation upon non-riparian lands, and of waters carried by its canals for Miller & Lux or for others parties, and of the so-callled waste or surplus waters?

A. I think the chief engineer will be able to give you better testimony on that point than I could.

X Q. 1011. Are there any records in your office about both matters?

A. There are no records in the office by which I could personally determine just what water was diverted for non-riparian lands or for riparian lands.

X Q. 1012. You understand, do you not, Mr. Merritt—It has been stated here several times—in this case that Stevinson brought against the canal company, it was decided by the court that the canal company was limited to the taking of 760 cubic feet per second of water from the San Joaquin river for use on non-
787 riparian lands? You understand that?

A. I do.

Mr. TREADWELL: I will state, Mr. Langhorne, that I believe the company does keep such records, and the engineer will produce them here.

(By Mr. LANGHORNE:)

X Q. 1013. Does he keep a record of the riparian lands?

A. Of the riparian lands and the non-riparian lands.

X Q. 1014. And the waste waters and the surplus waters?

A. The waste waters and the surplus waters.

X Q. 1015. I was asking you at the last hearing about this little canal belonging to Miller & Lux that heads between the Helm canal and the main weir on the San Joaquin river?

A. Yes.

X Q. 1016. You know what I have reference to?

A. I know what you have reference to.

X Q. 1017. I understood you to say that according to your best belief, the waters that were carried in that canal were paid for by Miller & Lux to the canal company?

A. Yes sir, I know that has been true in some years. I was not able to state as to the years, for I have not examined the records with reference to that.

X Q. 1018. Now if you examine your records, can you give me a statement as to that matter, the number of acres, for instance, each year, of Miller & Lux's that have been irrigated from that canal, and the amounts that they have paid for?

A. How far back?

X Q. 1019. Well I will be satisfied if you take it from 1906 up to the present time.

A. I can see what my records will enable me to show, and I will do the best I can to make such a showing. But I think there are others who could testify to those facts better than I could.

X Q. 1020. Well, as I understand, you rely upon reports sent in to you by the different superintendents of the company?

788 Mr. TREADWELL: I understood the witness to testify that as a general rule he could not tell at all what land was irrigated by particular canals.

(By Mr. LANGHORNE:)

X Q. 1021. Mr. Merritt, the superintendents of employés of the company are required to keep a record, are they not, of the lands and the owners of the lands that are irrigated with waters belonging to the canal company, and the amounts of such irrigation, with reference to the certain length of time, are they not?

A. Certainly.

X Q. 1022. Are those reports made to you?

A. Not in full. The charges against the owners are made to me, and the number of acres; but the location of those acres is not always reported. I have on one occasion I think received from him a plat on which he had caused his book-keeper to color the land that was irrigated; and that is the only year for which I now have such records in the office. A good many years ago there were a good many statements of that kind, maps of that kind, but they are lost

X Q. 1023. For what year have you that plat?

A. That was for the year ending June 30, 1907, according to my recollection.

X Q. 1024. And that plat would show the lands irrigated by waters belonging to this canal company, would it?

A. Yes, but it would not show necessarily from what ditch those waters came.

X Q. 1025. Did that plat have the ditches marked on it?

A. Yes, but I can't always tell by looking on the map how any given field is supplied. It may be supplied by one ditch or by another ditch.

X Q. 1026. Well, you have that plat, have you now?

A. I have that plat.

X Q. 1027. Will you please produce that plat? I will ask you if the plat you have reference to will include the lands irrigated from waters from this ditch which I call the little canal?

789 A. I suppose it will.

X Q. 1028. I would be obliged if you would bring it the next time. You call that an irrigation plat, do you not?

A. Yes.

X Q. 1029. For the year ending when? June 30, 1907?

A. That is my recollection, that that was the year.

X Q. 1030. Now, turning to those legal expenses, have you the items of the statement for the year ending November 25, 1907?

A. I have.

Mr. LANGHORNE: The witness produces the statement referred to and defendants offer it in evidence in connection with his cross-examination and ask that it be marked, "Exhibit H."

(So marked.)

X Q. 1031. This first item on this Exhibit H, "Water Rate Contest, $4,659.57", is that the suit referred to by you in relation to Exhibit F? Is that the suit in the State Court brought by the canal company against the three counies, as to water rates?

A. I presume this must contain items of the present suit. I don't remember when this suit was begun. For the purpose of our annual statement I have not segregated the expenses under the old suit from the expenses under the present suit.

X Q. 1032. You have not?

A. Not for the purpose of the annual statement. Of course I can tell by going back to the books.

X Q. 1033. Can you give us the items on that charge?

A. If you will give me time, yes.

X Q. 1034. I would like also to have you make a segregation between the charge of the state suit, the state water rate suit, and this water rate suit.

A. Between the old proceedings and the new proceedings?

X Q. 1035. Yes sir. Now the next item is "Stevinson versus Canal Company, $1,900.85." Is that the same case shown on Exhibit F?

A. It is.

790 X Q. 1036. That appeal in that case is taken by the Stevinson people, is it not?

A. Yes.

X Q. 1037. And do I understand that these charges in the Exhibit H, $1,900.85, are for expenses on appeal and in resisting that appeal by the canal company?

A. I can't state without examining the account, whether it is composed entirely of expenses on appeal or not.

X Q. 1038. But those expenses have been actually paid, have they, for legal services?

A. Oh, yes, oh yes.

X Q. 1039. I mean there is nothing estimated there?

A. Oh no, that is actual cash payment.

X Q. 1040. Now then, the next matter is "Canal Company against Borland" charged with $134.80. What was that, Mr. Merritt?

A. The same as shown in the statement for the present year, as to which you questioned me Saturday.

X Q. 1041. I know, but the matter of $9,000 in Exhibit F in the Borland matter was paid Mr. Henry Miller's company, the Borland Land Co., as I understand it, in settlement of their claims in regard to water rights against the canal company.

A. Oh, I am mistaken. I thought there was something on record as to that. It is true that $9,000 was all there was that year. These were some items connected with the litigation. That didn't have anything to do with the $9,000 item, directly.

X Q. 1042. You say "to do with the litigation". What do you mean by that? Counsel fees or reporter's fees?

A. Judging by the size of them I should think it was not counsel fees.

X Q. 1043. Just give us some idea.

A. I presume it was printing.

X Q. 1044. Now you have given half, that is, half of the charge. Who paid the other half?

A. Miller & Lux.

X Q. 1045. Were they parties to that suit?

791 A. Well, it was on their books. I don't know how they have disposed of them on their books. I have not looked at their books to see.

(Question read.)

—. I am unable to state. I don't know that I ever saw the pleadings.

Mr. TREADWELL: I will state that Miller & Lux is a party jointly with the canal company in that suit.

(By Mr. LANGHORNE:)

X Q. 1046. Then I understand that Miller & Lux also were parties plaintiff in the suit of the Canal Co. against Borland, which has been settled as has been shown here, by paying the Borland Land Co. $9,000; and I will ask you if Miller & Lux made any payment to the Borland Land Co., in settlement or otherwise.

Mr. TREADWELL: I will state that I don't believe counsel is entirely accurate when he says the suit was settled by that agreement. By the agreement the Borland Land people simply gave up the benefit of the superior court judgment which cut the canal company down to a very small appropriation, and stipulated that in consideration of the payment of that money the canal company might go ahead and divert its waters as before, without let or hindrance, up to 1200 feet; but that did not settle any rights of Miller & Lux in one way or the other, as against the Borland people; and Mr. Miller having purchased the land himself from the Borlands, it was still necessary to make a settlement with Miller & Lux, and it was also necessary, still, to make a settlement with the California Pastoral & Agricultural Co., and that was the object of the other agreement which was introduced here, Exhibit 18; and by that agreement the entire matter was settled as to all the parties, and the suits will now be dismissed; that is, the suit in the Circuit Court by the California Pastoral & Agricultural Co., the suit in Merced

County, of the Turner Estate, and in Fresno County by Miller & Lux and the canal company.

(By Mr. LANGHORNE:)

792 X Q. 1047. Then this item of $134.88, you don't know exactly what that was for, do you?

A. I can't state it of my own knowledge, what it was for.

X Q. 1048. Then the next item, "Canal Company against Enterprise Canal & Land Co., $1,125.81." Miller & Lux is the other party plaintiff in that suit?

A. Yes.

X Q. 1049. And that is the same case, is it not, mentioned in Exhibit F?

A. Yes.

X Q. 1050. And this $1,125.81, what is the nature of the service for which that was paid?

A. The same general nature as the expenses of the previous year. I can't tell just what the items are. I don't know of my own knowledge what they are.

X Q. 1051. And the next item, "Canal Company against Fresno Flume & Irrigation Co., $52.49?" That is the same suit mentioned in Exhibit F?

A. Yes.

X Q 1052. Which is a charge of $52.49 as one half of the whole, the other half being charged to whom?

A. To Miller & Lux.

X Q. 1053. Do you know what the $52.49 is for?

A. No.

X Q. 1054. Now the next item, "California Pastoral & Agricultural Co. against James Canal, $307.64," is that the same suit named in Exhibit F?

A. Yes.

X Q. 1055. And that is one half the total charge, is it?

A. Yes.

X Q. 1056. That was a case, as I understand it, brought in the federal court not by the canal company, but it was brought by the California Pastoral & Agricultural Co. at the instance of the canal company? Is that right? The same case?

A. So I understand it.

X Q. 1057. Do you know for what that $307.64 was paid?

A. I do not.

X Q. 1058. Then the next item, "California Pastoral & Agricultural Co. against Miller & Lux and the Canal Company, $791.20"? That is the same case under that name mentioned in Exhibit F, is it not, Mr. Merritt?

A. I believe so.

793 X Q. 1059. And this item of charge is one half of the total, is it?

A. Yes.

X Q. 1060. The other half is charged to Miller & Lux?

A. Yes.

X Q. 1061. And for what was that $791.20 paid?

A. I have not examined the vouchers.

X Q. 1062. The next item, "California Pastoral & Agricultural Co. against Borland, $175," that case was not in Exhibit F, was it?

A. No.

X Q. 1063. Was the canal company a party to that suit?

A. I don't know. I don't know much about those suits. I don't know that I ever saw the pleadings. I had a very slight connection with them. All I know is from hearsay.

Mr. TREADWELL: I would state to counsel that the canal company was not a party to that suit. It was brought simply by the California Pastoral & Agricultural Co. at the joint instance of Miller & Lux and the canal company in the same manner that the suit was brought against the James Canal Co.

The WITNESS: I would like to state with regard to these items that you are questioning me about, that these bills as a rule never came to my notice at all. They are approved by other officers and paid by employés and entered by employés, and I have no occasion to inform myself.

(By Mr. LANGHORNE:)

X Q. 1064. And is that true also of the items on Exhibit F to which you testified to yesterday?

A. Yes, it is true of all those legal expenses the items of which come from Miller & Lux's books.

Mr. LANGHORNE: Now I will ask you, Mr. Treadwell, in connection with this case of the California Pastoral & Agricultural Co., in the item to which he says the canal company was not a party, if in that case there was any agreement between the canal company and the plaintiff in that suit by which the canal company was secured to be benefited by any judgment that might be rendered in favor of the plaintiff in that suit.

794 Mr. TREADWELL: I will state that I don't know whether there was or not, whether there was any agreement there in regard to that suit or in regard to any of the other suits that were brought by the California Pastoral & Agricultural Co., except the agreements that are in evidence, as I didn't have anything to do with it.

(By Mr. LANGHORNE:)

X Q. 1065. I will ask you, Mr. Merritt, do you know in regard to those cases here in which it appears that the canal company was not a party plaintiff, you know, or defendant, but in connection with which they had been charged with a portion of the legal expenses of conducting it—whether in those cases there is any agreement between the canal company and the plaintiff or plaintiffs in the other cases, respectively, securing to the canal company the benefit of any judgment or judgments that the plaintiff might secure?

A. I am not informed. I did not have anything to do with the bringing of the suits or the arrangements as to them, and I don't know what the facts were in that regard.

X Q. 1066. Now then, the next item "The Turner Estate against

Borland, $75," is that the same case under that name mentioned in Exhibit F?

A. Yes.

X Q. 1067. Do you know what that $75 was for?

A. No, for the same reason as I said before.

X Q. 1068. And the canal company was not a party to that suit, was it?

A. I believe not.

X Q. 1069. The next item, "Turner Estate versus Enterprise Canal & Land Co., $313.10", that is the same case under that name mentioned in Exhibit F?

A. Yes.

X Q. 1070. And this charge of $313.10 is one half of the total for that year?

A. Yes.

X Q. 1071. And Miller & Lux paid the other half?

A. Yes.

X Q. 1072. Do you know for what that $313.10 was paid?

A. No, for the reason already stated.

795 X Q. 1073. And the canal company was not a party to that suit, was it?

A. I believe not.

X Q. 1074. The next item, "Miller & Lux, Incorporated, &c., versus Stevinson, $3,772", is that the same suit mentioned in Exhibit F as Miller & Lux et al. versus Stevinson?

A. I believe it is.

X Q. 1075. Is the canal company a party to that suit?

A. I think not. I am not sure what the pleadings would show.

Mr. TREADWELL: I think that the case or cases referred to under that title were brought by Miller & Lux, Incorporated, and the Las Animas & San Joaquin Land Co., Incorporated, and the canal company was not a party to the record.

(By Mr. LANGHORNE:)

X Q. 1076. Then what was this amount, $3,772, paid out for?

A. Because the canal company would derive a benefit.

X Q. 1077. I know, but for what service was it paid? What were the services?

A. I am unable to state, for the same reason as given in reply to questions regarding the other items.

X Q. 1078. And is there any contract or contracts between the canal company and the plaintiffs in that case to secure to the canal company the benefit of any judgment or judgments which the plaintiffs, or either of them might secure?

A. I am not aware of any written contracts.

X Q. 1079. Do you know of any verbal contracts?

A. No.

X Q. 1080. The whole of that expense there seems to be charged to the canal company?

A. One half.

X Q. 1081. To whom is the other half charged?

A. Miller & Lux.

X Q. 1082. Now the next item, "Sundry Items, $267.93." That is a charge made against the canal company alone, is it?

A. It is a charge appearing in the canal company's books only, and made up of small amounts regarding fees and small suits against the delinquent customers, and so on.

796 X Q. 1083. And you know the services for which those were rendered, do you, or for which those were paid out?

A. Oh, I have seen some of them. I have not checked this with the account to see just what the items are. I have taken the bookkeeper's word for that.

X Q. 1084. Now have you the itemized statement for the year ending November—no, you could not have it for November 25, 1908, but you have a statement in Exhibit 16, complainants' Exhibit 16, in that profit and loss account, to June 30, 1908? Is that right?

A. Yes.

X Q. 1085. Now the items under the head, "Legal Expense" in Exhibit 16, are any of them included in this Exhibit H?

A. Yes. Exhibit 16 to which you refer is for the twelve months ending June 30, 1908, and therefore necessarily that statement includes a portion of the period covered by the statement for the fiscal year ending November 25, 1907.

X Q. 1086. In other words, it would include everything which had been paid out on that account from June 30, 1907, up to November 25, 1907?

A. Precisely.

X Q. 1087. Which are also included in Exhibit H?

A. Yes.

X Q. 1088. And you have not made any segregation, have you, of those?

A. I have here a segregation showing how much of the statement for the period ending June 30, 1908, is included in the statement ending November 25, 1907.

X Q. 1089. Well that will serve the purpose I think.

A. I have simply a jotted memorandum here, so that I will have to read it in if you want to know it.

X Q. 1090. Now we will take the first item on Exhibit 16, "The California Pastoral & Agricultural Co. against Miller & Lux and the Canal Company, $886.50," one half of the total charge.

A. Yes. Of that, $287.80 was paid after November 25, 1907.

X Q. 1091. Now that is the same case, is it not, Mr. Mer-
797 ritt, that is mentioned in Exhibit F and also in Exhibit H?

A. Yes.

Mr. LANGHORNE: I understand counsel to say that he will look into that further and see whether that charge would not be taken off, or materially reduced. Is that the idea?

Mr. TREADWELL: Yes sir.

(By Mr. LANGHORNE:)

X Q. 1092. If you will read the next item.

A. The next item is, "Canal Company against Borland, $571.86."

X Q. 1093. That is the total?

A. Yes. That is the total paid for account of the canal company from November 25, 1907, to June 30, 1908.

X Q. 1094. That was paid after November 25, 1907?

A. Yes.

X Q. 1095. Up to——

A. June 30, 1908.

X Q. 1096. That was the total amount?

A. Yes.

X Q. 1097. What is the next?

A. "Canal Company against Enterprise, $5.02; Canal Company against Fresno F. & I. Co., $1,309.05; Turner against Enterprise, $274.25; Miller & Lux against Stevinson, $8,444.75."

X Q. 1098. That includes the Turner Estate too, does it not? How is that, Mr. Merritt? In your Exhibit 16 you have "Miller & Lux against Stevinson, and "Turner Estate against the Eastside" together.

A. Yes.

X Q. 1099. Then as to the item on Exhibit 16, "Miller & Lux and others versus Stevinson" and "Turner Estate versus Eastside, $6,911.10." You wish to make a further examination, do you, Mr. Merritt?

A. Yes. The "Sundry Items paid out," the only entry in the canal company's books from November 25, 1907, to June 30, 1908, is $56.73.

X Q. 1100. Next.

A. That is all.

The MASTER: I understand that these last items given by the witness, added together, constitute the total amount that has been paid out since November 25, 1907, to June 30, 1908, and that the other items were all paid out previous.

798 A. Yes, they show how much of the legal expense account was, in the statement to June 30 last was not included in any previous statement.

(By Mr. LANGHORNE:)

X Q. 1101. So then those things which you have not testified as having been paid from November 25, 1907, and up to June 30, 1908, which are included in Exhibit 16, as to those matters you have already testified to, then, in Exhibit H?

A. Yes.

X Q. 1102. Now then, taking Exhibit 16; as to that portion of the items, "California Pastoral & Agricultural Co. versus Miller & Lux and the Canal Company," namely, $287.80, do you know for what service that was paid?

A. I don't think I catch your question. Exhibit 16 is the statement of profit and loss to June 30, 1908, isn't it?

X Q. 1103. Yes sir. That is the same case, Mr. Merritt, is it, which is mentioned in Exhibits F and H?

A. Under that name?

X Q. 1104. Yes.

A. Yes.

X Q. 1105. The $5.02 which you say was expended after November 25, 1907, in the case of the Canal Company against Enterprise, do you know for what that was expended?

A. No. The same reasons will apply to those items as to the previous items.

X Q. 1106. The same case in regard to the $56.73 expended after November 25, 1907, for sundry suits against debtors, &c.

X Q. 1107. Are there any contracts, Mr. Merritt, other than those you have already testified to make by or on behalf of the canal company with Miller & Lux or Mr. Henry Miller or the Las Animas & San Joaquin Land Co. or with any other person or persons or corporation relative to the carrying of the waters of such persons by or through the canals of the canal company?

A. Not that I can recollect or am aware.

X Q. 1108. Now outside of the contracts made by the canal company to sell to irrigators, other than Miller & Lux or Mr. Henry Miller and the Las Animas and San Joaquin Land Co., are
799 there any contracts other than those you have mentioned relating to or providing for the sale of waters belonging to the canal company?

A. I don't recollect any, if I understand your question. There is a contract with Mr. Stuhr—with the Realty Development Co., which is rather outside of the usual contracts made with irrigators.

X Q. 1109. That is in writing, is it?

A. Yes.

X Q. 1110. Can you produce that?

A. I can. (Producing.)

X Q. 1111. I ask you now, is there any contract by the canal company with Miller & Lux or Miller & Lux, Incorporated, or Mr. Henry Miller, or the Las Animas & San Joaquin Land Co., or with any other person or corporation relative to the canal company's either diverting by its weir or carrying in its canals or in any portion of its canals any of the waters claimed by any of said parties to be riparian waters?

A. There is no contract other than the one which was filed with you, so far as I am aware.

X Q. 1112. Mr. Merritt, in regard to a contract dated June 29, 1908, between the canal company and Miller & Lux in relation to a certain ditch, which contract is produced by counsel for complainant, and which he says is incorrect in some particulars, and he desires to have it corrected, I will ask you when corrected, will you please produce it?

A. I will.

(At the hour of 12:30 p. m. recess was had until 2 p. m., when the examination of the witness, Charles Z. Merritt, was resumed as follows:)

Mr. Langhorne: If your honor please, in connection with the testimony of the witness, Charles Z. Merritt, there is produced an agreement dated the 29th day of June, 1908, between the San

Joaquin & Kings River Canal & Irrigation Co., Incorporated,
800 and Miller & Lux, Incorporated, and I ask that it be included in the evidence as "Defendants' Exhibit I".
(So marked.)

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Merritt, you spoke in regard to the account of the farm, sometimes called the Experimental Farm, that the canal company kept in early years. Was there a separate account kept on the books of the company in regard to that farm?

A. Yes.

R. D. Q. 2. Upon examining the books that were saved from the fire, did you or did you not find the book containing that account?

A. I did find it.

R. D. Q. 3. That is still in existence, is it?

A. It is.

R. D. Q. 4. I will ask you whether or not any of the items which are charged in that account against the farm, whether or not any of those items went into the construction account as to which you testified, showed the cost of construction of complainant's work?

A. They did not.

R. D. Q. 5. Did you also find in the books that have been saved a separate account, known as the Tulare Lake account?

A. I did.

R. D. Q. 6. You were asked on your cross-examination as to certain testimony which you gave in regard to the upper canal or the Tulare Lake canal in the prior suit against Stanislaus county. I will ask you if you also in that case testified as follows, in regard to that matter:

"Q. You were asked a variety of questions concerning work of construction on the so-called upper canal, with regard to which you said in substance you found charged in the construction account the sum of $9,026, which you had ascertained was construction on the upper canal, and that you were unable to find any evidence of any other work of construction having been done on that canal before 1875. I will ask you whether, outside of construction, there were not other accounts of the company that showed expenditures in 1871, 1872, 1873 and 1874, with regard to the upper canal?

A. The engineer's office account.

801 Q. The surveying done on that canal would appear in the engineer's office account, would it not?

A. It would

Q. And so far as the general management was concerned, that would appear in the general management account, would it not?

A. It would.

Q. You have examined the books of the company carefully to ascertain whether there was anything done on the upper canal before 1875 for the purposes of construction, have you not?

A. I have.

Q. And you found no construction except that which is evidenced by that $9,026?

A. Nothing but that.

Q. Prior to 1875?

A. Prior to 1875."

Did you also testify in that way in regard to that matter?

A. I did.

R. D. Q. 7. Counsel also directed your attention to the minutes of the canal company of December 6, 1898, in which the president makes a report in regard to a case of Lowry against the canal company, and states that the plaintiff in that case had obtained a judgment of $2,000 damages, and states: "A motion was pending for a new trial, and if that were granted the company would take an appeal. In either alternation the company's attorneys were confident of ultimate success." I will ask you if you remember the general purpose of that case of Lowry against the canal company?

A. It was a suit for damages, alleging that the company had caused the overflow of land belonging to Lowry and in the trial of the case judgment was entered against the company.

R. D. Q. 8. Flooding the land by raising the river up?

A. Raising the level of the river at the dam.

R. D. Q. 9. What became of that case after this report?

A. An appeal was taken and the case was remanded for a new trial, as I recollect it, but no trial has yet been had.

R. D. Q. 10. The judgment was reversed?

A. The judgment was reversed, and a new trial was ordered, and no new trial has been had. The case has not been tried again by the plaintiff.

R. D. Q. 11. The plaintiff has not done anything further since?

A. The plaintiff has not done anything further since.

R. D. Q. 12. And that was a good many years ago now?

A. Yes.

802 R. D. Q. 13. On page 235 of your evidence, you are asked in regard to your testimony in the former case against Stanislaus county as follows:

Q. Did you not testify at that time that you could not tell from an examination of the old books of the canal company, considering the method of book-keeping, what had been included in the cost of complainant's canal?

A. Of its present system, do you mean?

Q. Well, of the system as it existed in 1896.

A. I don't know just what you refer to, but I presume that I testified that I could not determine from an examination of the books what the cost of construction of the existing system was.

I would ask you, Mr. Merritt, to explain again exactly what you refer to in saying that you could not determine the cost of construction of the existing system.

A. I referred to the fact that during a portion of the period of construction, the maintenance account and the construction account appear not to have been kept separately on the books of the company, and I was unable to determine exactly what items belonged

to maintenance account and what to construction account, in that section of the company's books. I was able to determine that certain items stated in the books belonged to construction, and I stated those items so that the statement which I made could be confidently affirmed to represent construction. But that did not represent all of the cost of construction, because on account of the mixture of construction and maintenance we were unable to get at the actual facts as to a considerable section of the account, and we omitted altogether the items that we were in doubt about.

R. D. Q. 14. Then if I understand you correctly, the first estimate that you made and which is set forth in Exhibit 13, that that set forth all the items which were charged on the books to construction, and then that you made up a subsequent account, which is Exhibit 14, in which you eliminated every item which you knew was maintenance or which might have been maintenance, and leaving only the items which appeared on their face to be properly
803 chargeable to construction? Is that correct?

A. That is correct.

R. D. Q. 15. So if I understand you, everything that is contained in Exhibit 14, being the second statement which you made up—that every item in there does constitute construction, and that it has no items of maintenance in it?

A. That is the case.

R. D. Q. 16. And you also stated that Miller & Lux had never been charged with any amount for use of the telephone line, other than rental of instruments that they themselves used. Will you explain to me fully how that line is used between Miller & Lux and the canal company?

A. The line was originally used entirely by the canal company, and as time went on certain of Miller & Lux's ranches connected with the company's line, partly for the purpose of being able to communicate with Miller & Lux in cases of danger to the canal from breakage or overflow, and being able to quickly get such help as might be necessary from them, because we are dependent upon Miller & Lux's men and teams for such emergency as that, to do extra work that may be required; also in part for the purpose of being able to communicate with Miller & Lux regarding the water used for irrigation on their lands, and as a matter of course, the connection of our lines was a convenience to some of Miller & Lux's ranches, by enabling them to order water when they wanted it, and to communicate with one another. The use by Miller & Lux in that way has not at all increased the company's expense in the maintenance of the line, and it has not resulted in any damage to the line; that is to say, the line does not wear out any faster because Miller & Lux have that use of it, and their inter-communication between ranches is principally on their own lines, which are separate from the company's lines. Only a few of their ranches are able to maintain communication with each other through our lines. So that the
804 benefit to Miller & Lux was offset by the benefit to the company and it never had occurred to us as being a matter that required any charge to be made.

R. D. Q. 17. Did you ever allow any of the other consumers of the water of the canal company to use that telephone line or poles?

A. No other consumers used the wires, but other consumers have been allowed at various times to use the poles for stringing their own wires, and as long as they did not interfere with our use of the wires, we had no objection to that. But as a matter of fact I think they have all been required to take them down some time since, because they did not so construct them as to prevent induction, and we could not use our wires many times on account of overhearing conversations on the other wires. That interference with our business was a detriment and we required them to take them down.

R. D. Q. 18. You stated the cost of the general superintendence of the company since it has been jointly with Miller & Lux using their office, &c. Will you state now what the relative cost of that was before and since Miller & Lux have had the control of the canal company?

A. I can state what the cost of some items was before Miller & Lux obtained the control, and the comparison will speak for itself. Before the election at which Miller & Lux obtained control of the company there was a general business manager paid $200 a month, an engineer who was paid $200 a month; the president was paid $125 a month and the secretary $150, and their office rent, which did not include janitor, lighting or heating, was $50 a month. As a matter of fact there was no such thing as typewriters and stenographers.

R. D. Q. 19. Then the president got $25 a month more than he gets now?

A. Yes.

R. D. Q. 20. The business manager's duties now—there is no such man in the company now?

A. No.

805 R. D. Q. 21. Those duties are done by the president and vice president?

A. Yes.

R. D. Q. 22. And the salary of the secretary is the same?

A. The same.

R. D. Q. 23. And the engineer got $200. You testified that the engineer, as I understand it, the present engineer, got $125, didn't you?

A. I said that that was the proportion of the salary of the engineer that was paid by this company.

R. D. Q. 24. Is that correct?

A. No, he gets less than that. It is between $60 and $70 now. I think it is $70 a month, the proportion of his salary which is paid by this company.

R. D. Q. 25. In stating the cost of maintenance of the company on the profit and loss account for 1907-8, you have included what might be called depreciation, apparently, of personal property? Is that correct?

A. Yes. That would be a correct description, I think, of some of those items.

R. D. Q. 26. But outside of that depreciation on the personal property, have you taken into consideration any amount for depreciation on the structures on the canal?

A. No.

R. D. Q. 27. The dam?

A. Nothing of that kind. No, I have made no such showing as that at all, on the annual statement.

R. D. Q. 28. So if there is any deterioration in there during that year, or depreciation in value, it would not show by this profit and loss statement?

A. No.

R. D. Q. 29. You were asked to identify the minutes of the meeting held in 1879 at which the matter of the settlement of the pending litigation of Miller & Lux was taken up by the board of directors. Those minutes referred to a report that was filed by the committee at that time, and I will show you a report of the trustees' committee in the matter of settlement of matters in dispute with Miller & Lux, and approved by the stockholders October, 1879, and I will ask you if that has been a record in the company's
806 offices ever since you have been there?

A. It has.

R. D. Q. 30. Do you know the signatures of some of the parties to that instrument?

A. Yes, I know the signatures of William Center, Joseph Rosenberg, John H. Bolton, J. C. Wilmerding, Henry Pierce, James E. Gordon, William F. Chapman, Joseph Sedgley, Jesse S. Potter, and Miller & Lux.

R. D. Q. 31. And that instrument is signed by those parties, is it?

A. It is.

Mr. TREADWELL: I offer that in evidence in connection with the cross-examination, and ask that it be marked "Complainants' Exhibit No. 23."

Mr. LANGHORNE: Defendants object to the introduction on the ground that it is incompetent and on the ground that it is irrelevant.

The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

(Marked "Complainants' Exhibit No. 23.)

R. D. Q. 32. You were also asked if the contract with the Borland Land Co., and marked defendants' Exhibit G, was submitted to the directors of the complainant. Was it submitted to the directors?

A. It was.

R. D. Q. 33. I show you a book purporting to be the minute book of the complainant, and I will ask you what that book is.

A. It is the minute book of the complainant containing the records of the meetings of the trustees and the stockholders.

R. D. Q. 34. Calling your attention to the minutes of the special

meeting of the trustees on page 73, under date of August 28, 1906, I will ask you if you wrote those minutes?

A. I did.

R. D. Q. 35. Is that a correct report of the meeting?

A. It is.

Mr. TREADWELL: We offer in evidence that part of those minutes, which is as follows—

807 Mr. LANGHORNE: We object on the ground that it is incompetent and irrelevant.

Mr. TREADWELL: We submit that where a witness is asked whether the minutes show a particular thing, and then he brings them, that it is entirely relevant.

Mr. LANGHORNE: My cross-examination was as to the basis of the agreement with Mr. Miller in which he was paid $9,000. That is the reason I did not introduce it.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

Mr. TREADWELL (reading):

Mr. Nickel introduced the following resolution and moved its adoption:

"Whereas, a judgment has been rendered in the superior court of Fresno county in the case of Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Company against Agnes Borland, executrix, et al., by the terms of which the right of this corporation to divert water from the San Joaquin river is made subordinate to the rights of said defendants as the owners of certain lands riparian under Fresno Slough and the San Joaquin river, and

"Whereas, two other suits involving the same issues are now pending, to wit: Turner vs. Borland, in the superior court of Merced county, and the California Pastoral & Agricultural Co. vs. Borland, in the U. S. Circuit Court for the Northern Division of the Southern District of California, and

"Whereas, it is estimated that the expenses on appeal from the said judgment and prosecution of the said proceedings of the cases would cost the company from $10,000 to $15,000, and

"Whereas, the Borland Land Company, the present owner of said land, is willing to enter into an agreement with this company permitting it, in consideration of the payment of the sum of $9,000 to divert 1200 cubic feet per second from the San Joaquin river,

"Now, therefore, be it resolved, that the president of this corporation be and he is authorized and directed to make and execute in the name and on behalf of this corporation an agreement with the Borland Land Company as the owner of said riparian lands, securing to said corporation the prior right as against said land company to divert 1200 cubic feet per second from the San Joaquin river, and to pay the sum of $9,000 as consideration therefor."

I would also call your attention to the minutes of March 14, 1907, and ask you to refresh your memory from those minutes and state what directors were present at that meeting.

A. According to the records there were present trustees Allen, Lewis, Monteagle, Nickel and Talbot, and President Miller.

R. D. Q. 36. I would also call your attention to the recital
808 there, that the minutes of the meeting held on August 28, 1906, were read and approved. Now I ask you whether or not that was done at that meeting.

Mr. LANGHORNE: We make the same objection to this testimony.
The MASTER: The same ruling.
Mr. LANGHORNE: We take an exception.

A. Yes.

(By Mr. TREADWELL:)

R. D. Q. 37. I ask you, Mr. Merritt, whether that agreement in regard to the Borland Land matter was submitted to and explained to the minority stockholders in the corporation?

A. It was.

R. D. Q. 38. Did they know of Mr. Miller's interest in the Borland Company?

A. Yes.

R. D. Q. 39. You stated that your testimony in regard to the expense of maintenance of the company for the various years was in regard to the fiscal year of the company, that is, to November 25 of each year. Calling your attention, however, to Exhibit 16, being the profit and loss agreement for the year 1907-8, I would ask you if that is true in regard to that exhibit?

A. In the statement to which you refer, the expenses were stated for the twelve months ending June 30, 1908, which was not the regular fiscal year.

R. D. Q. 40. Do you remember, Mr. Merritt, the meeting of the directors when the matter of the Borland Land agreement, complainants' Exhibit 18, the last agreement dated October 20, 1908, was submitted to the board of directors of complainant?

A. I do.

R. D. Q. 41. Who was present at that meeting?

A. The full board.

R. D. Q. 42. Who were the representatives of the minority stockholders at that time?

A. Mr. Louis F. Monteagle, Mr. W. H. Talbot and Mr. F. C. Talbot.

R. D. Q. 43. What in a general way took place at that
809 meeting in regard to that contract?

A. The contract was read, I think by yourself, to the board, and explained, and a discussion followed with the trustees, some of whom noticed points that they wanted particularly to discuss, and I think some slight changes were made in the contract in consequence of a discussion, by the minority trustees.

R. D. Q. 44. And was it finally adopted?

A. It was finally adopted by a unanimous vote, Mr. Miller not voting.

R. D. Q. 45. Has there ever been any time since you have been familiar with the canal company when the minority stockholders have not had representatives on the board of directors or trustees?

A. No.

R. D. Q. 46. And by that I mean men who had no interest of any kind in Miller & Lux or Miller & Lux incorporated, or in any of the corporations of which Mr. Miller has control?

A. I so understand you.

R. D. Q. 47. You remember the contract which has been introduced here, known as defendants' Exhibit E, in reference to the diversion of water through the Helm Canal?

A. I do.

R. D. Q. 48. That contract has in it certain recitals, and among others it recites something in regard to an opinion which had been announced in the case of Stevinson against the canal company. Do you know what case that referred to?

A. That referred to a suit brought by Mr. Stevinson to enjoin this company from diverting water from the San Joaquin river, basing his adverse claim on his riparian rights.

R. D. Q. 49. That contract you will note was dated the 4th day of December, 1905. I will ask you whether or not final findings and decree had been rendered in the case of Stevinson against the San Joaquin & Kings River Canal & Irrigation Co. at that time?

A. No, not at that time.

R. D. Q. 50. So when this contract refers to the decision which had been announced by the superior court of Merced County,
810 the action brought by J. J. Stevinson against the party of the first part referred to what?

A. Referred to the oral decision announced by the court.

R. D. Q. 51. The court had rendered an oral opinion prior to that?

A. Yes.

R. D. Q. 52. Announcing that he would allow us 760 feet?

A. Yes.

R. D. Q. 53. And that was what was referred to in that contract?

A. It is.

Mr. TREADWELL: Now in explanation of the testimony of the witness, I offer in evidence the decision, that is, being findings of fact and conclusions of law, filed in the case of J. J. Stevinson vs. San Joaquin & Kings River Canal & Irrigation Co., a corporation, by the superior court of Merced County, filed on the 2d day of April, 1906.

(Marked "Complainants' Exhibit No. 24.")

Also the decree in the same case, filed on the 2d day of April 1906.

(Marked "Complainants' Exhibit No. 25.")

(It is stipulated between the respective parties that exhibits 24 and 25 shall be transcribed into the record and that the transcript thereof may be used with the same force and effect on the trial of the cause, as if it were the original.)

R. D. Q. 54. Also in regard to this agreement, defendants' Exhibit E, it is provided that Miller & Lux and the Las Animas & San Joaquin Land Co., Incorporated, might divert from the river any water not belonging to the first party, that is, the canal com-

pany, and which it, the canal company, is not entitled to divert from the river. I will ask you if Miller & Lux since the execution of that agreement has ever claimed the right under that agreement to divert any water which the canal company itself was entitled to divert?

A. No, never.

R. D. Q. 55. During the irrigation season which followed the execution of this agreement, that would be the irrigation season of 1906-7, was water diverted both through the head gate of the
811 canal of complainant and also through this Helm canal?

A. Yes.

R. D. Q. 56. And that water that was diverted through the Helm canal was delivered into the company's canals?

A. Yes.

R. D. Q. 58. In charging water for that year, was any distinction made at all between the water that went in through the Helm canal into our canal and water that went directly into our canal from the river?

A. None whatever.

R. D. Q. 59. So, as I understand you, Miller & Lux have paid the full rates for that year for all the water that was delivered to it?

A. It did.

R. D. Q. 60. And this contract, as I understand it, was not taken advantage of by Miller & Lux at all for that year?

A. It was not.

R. D. Q. 61. In 1907-8, and ending June, 1908, the year that has just closed, was water taken in both through the canals of the company and also through the Helm canal and delivered into the canals of the company?

A. It was.

R. D. Q. 62. And on what basis have bills been made out against Miller & Lux for that year?

A. Bills have not yet been made out, but the engineer was directed to ascertain as soon as he could after the close of the irrigation year, the facts as to the delivery of water to them, and as to the use of water by them, and to furnish data for the purpose of making the bills. It was some time before he could get at that, but for two months or perhaps more his department has been engaged upon that work, and has substantially completed it, and they are now re-checking it with a view to rendering the bills. The basis upon which they have made up their data with a view to rendering their bills is that Miller & Lux are chargeable for all irrigation during any time when the company is only taking 760 feet of water from the river, or can take only 760 feet of water or less from the river.

812 R. D. Q. 63. Now let us take that point first. As I understand you then, at any time when the canal company is only taking or can only take 760 feet, or a less quantity, from the river, Miller & Lux are to pay for any water that is delivered to them?

A. Yes.

R. D. Q. 64. Now do you mean by that, taken in at the head of

the company's canals, or do you include water that is taken in through this Helm canal and delivered into the company's canal?

A. It would make no difference. They would have to pay for it in any case.

R. D. Q. 65. Now the next case?

A. They are also chargeable with all water delivered to them for the irrigation of riparian lands, no matter how much water there may be in the river.

R. D. Q. 66. So, if I understand your testimony on that second point, if there is even up to 1200 feet diverted through the canals, from the river, and the 760 feet of that is being applied to the customers of the canal company, to be used on non-riparian land, and all the balance is being used by Miller & Lux on riparian land, that they will be made to pay for all the water that they are using on riparian land?

A. Precisely.

R. D. Q. 67. And I will ask you if in that you include water that is diverted by means of the dam into the Helm canal and thence into the company's canals, as well as water that is diverted from the river directly into the company's canals?

A. Yes, it would make no difference whether diverted into one canal or another. The question of charging is determined by the fact as to where it is to be used when the company is already using its 760 feet of water.

R. D. Q. 68. Now is there any other case that happens when the canal company cannot legally divert water and therefore may have to come in under this contract?

A. When there is water in the river in excess of 760 feet
813 which the company is entitled to divert, for non-riparian lands, plus the water which is to be used on riparian lands, if additional water is taken through the Helm canal by Miller & Lux, it is not charged to them as water for irrigation, but a charge is made for carrying the water for use on non-riparian lands.

R. D. Q. 69. So, as I understand, this last case then, what you mean is that if the company were diverting 760 feet on a particular day, and applying that to non-riparian lands, and were diverting a larger quantity of water, part of which was applied to riparian lands, but still, some more was being applied to Miller & Lux's non-riparian lands, that the part that Miller & Lux applied to non-riparian lands above the 760 feet would not be considered the canal company's water?

A. That is the case.

R. D. Q. 70. And would not be water that they would be legally entitled to divert?

A. Yes.

R. D. Q. 71. And as to that, I understand you have charged for carriage under that agreement?

A. Precisely.

R. D. Q. 72. Now, as I understand you, in the first year of 1906-7, Miller & Lux paid for it all as if it were the canal company's water?

A. Yes.

R. D. Q. 73. You state on page 254 of your testimony:

I don't know that Miller & Lux have ever delivered any water to the canal company to be carried at all since the judgment in the Stevinson case was rendered, and there has been no record from which we could make a charge until this year. We intended to make a charge last year, but our records were not in shape to make it. So far, we have not been able to get any data from which we could make a charge.

I ask you to explain just exactly what you meant in regard to that, about last year?

A. I meant that although it was our intention to follow the terms of the contract, Exhibit E, there were found to be two difficulties in doing it. In the first place, the instructions that had been given were given with a view to carrying out the terms of that
814 contract. That contract was based on the assumption that the decree would limit us strictly to the 760 second feet. As a matter of fact the decree did not limit us to 760 feet, and the instructions were not changed to conform to the changed conditions resulting from the decree as actually entered, which allowed them to irrigate riparian lands in excess of 760 feet. Therefore, the instructions were in themselves not sufficient to furnish us with the data that we needed under the changed conditions, and that point was not discovered and guarded against in time. Furthermore, we found that on account of changing men there, and on account of the novelty of the situation and the difficulty of understanding just what was wanted, that the data preserved had been quite incomplete of itself. And for those two reasons we found ourselves absolutely unable, at the end of that time, to arrive at a judgment on the basis that had originally been contemplated, and so we were forced to the other alternative, of charging Miller & Lux for all of their water just as though there had never been any limitation on our rights.

R. D. Q. In other words, you did know the amount of land Miller & Lux irrigated from water that came into the main canal from the river and also through the Helm canal into the main canal?

A. Yes.

R. D. Q. 75. You not being able to determine whether or not any of that was irrigated at times when more than 760 feet of water was being applied to non-riparian land, you compelled Miller & Lux to pay at regular rates for all the land they irrigated that year?

A. We did.

R. D. Q. 76. Now, for the year 1907-8, as I understand it, you have got data from which you think you can arrive at that matter?

A. Yes.

R. D. Q. 77. And the engineers are working on that proposition now?

A. Yes.

815 R. D. Q. 78. I would ask you, Mr. Merritt, whether or not this interpretation of the situation that you have given here as to your claim in regard to Miller & Lux, has been laid before the board of directors of the canal company and also before the board of directors of Miller & Lux?

A. It has been laid before the board of directors of the canal company. I was not present at any meeting when it was laid before the board of directors of Miller & Lux.

R. D. Q. 79. Well, it was laid before the directors of the canal company?

A. Yes.

R. D. Q. 80. And at that time who was present in regard to the canal company directors?

A. You mean to say the matter of the present interpretation of the contract?

R. D. Q. 81. Yes, the basis upon which they should pay for this water.

A. All the board of directors were present at that meeting.

R. D. Q. 82. And at that time there was present also a majority of the directors of Miller & Lux, were there not? The same men, I mean constitute the directors of Miller & Lux, to a considerable extent, do they not?

A. To a considerable extent. Of course the personality is not all the same.

R. D. Q. 83. The president and vice president of Miller & Lux were present at that time, were they not?

A. They were.

R. D. Q. 84. You were not present at the meeting of Miller & Lux held next day, were you? A. No.

R. D. Q. 85. And was this matter of the basis upon which Miller & Lux were to pay for this water laid before the board at that time?

A. It was.

R. D. Q. 86. And was Miller & Lux and the canal company advised as to whether Miller & Lux would have to pay the canal company for water that was carried through the Helm canal as well as for water carried through the main canal at all times when the canal company was legally entitled to divert that water?

816 A. Yes.

R. D. Q. 87. And was Miller & Lux at that time advised that they would have to pay for that?

they would have to pay for that?

A. Yes.

R. D. Q. 88. And they have submitted to that? Have they not?

A. Yes, they have.

R. D. Q. 89. In other words, as I understand it, Miller & Lux has never claimed under this contract that they had a right to divert any water there except water which the canal company was not legally entitled to divert?

A They never have.

R. D. Q. 90. Is that correct?

A. That is correct.

R. D. Q. 91. And their attorneys also advised them that if the contract even meant that, it would be a contract that Miller & Lux could not enforce on account of their relations with the canal company?

A. Yes.

R. D. Q. 92. Now without going into figures, Mr. Merritt, which I don't believe you have, is it a fact that this canal company has sold water, has diverted water and sold it during the last irrigation season, exceeding 760 cubic feet per second?

A. It has.

R. D. Q. 93. You also stated on page 255 of your testimony, along the same lines:

We intended to charge for it last year, that is, the year ending June 30, 1907, but we could not arrive at a statement of facts with regard to the carrying of that water, and have so far made no charge for it.

As I understand, you did make a charge according to the regular rates, for all the water that Miller & Lux got?

A. That is correct.

R. D. Q. 94. What you mean is, that you did not reduce their bill by simply charging carriage charge under this contract, but that you charged the whole amount according to the legal rates?

A. Yes, we made no charge for carrying the water, but we made them pay for all the water that they got for irrigation, regardless of the quantity diverted.

R. D. Q. 95. And that was because Miller & Lux or yourself were not able to say whether or not there were times when you
817 were diverting more than 760 feet and using it on non-riparian lands?

A. Yes, we knew that we were entitled to divert more than 760 feet because we were using a good deal more than that on riparian lands. We could not tell how much we were using on riparian lands, therefore we could not tell how much we were entitled to divert.

R. D. Q. 96. So that now, even if anybody could show now that as a matter of fact you were diverting more than 760 feet on riparian land, you would still consider that Miller & Lux, under that contract, should be charged for that water at the legal rate?

A. Yes, we should have to make allowance on the acreage basis for the irrigation.

R. D. Q. 97. You were asked several questions in regard to the river canal, the river ditch and the Poso canal and the lands irrigated by them. I would ask if this company owns distributing ditches.

A. No.

R. D. Q. 98. It simply owns the canals that you have testified to?

A. Yes.

R. D. Q. 99. And I will ask you if there are, and to what extent there are distributing ditches leading from their canals to the lands of other persons?

A. Oh, there are a great many. The water, all of it practically, has to be delivered into the delivery ditches owned by other parties.

R. D. Q. 100. Can you give any approximation of the mileage of those?

A. I never have attempted to make up a statement and in fact we don't know.

R. D. Q. 101. They are very extensive?

A. They are very extensive, yes.

R. D. Q. 102. You have nothing to do then with the water after it leaves your canals?

A. No.

R. D. Q. 103. As I understand you, you have been examined in regard to this river canal, the canal running along the river from the head gate?

A. Yes.

R. D. Q. 104. And you have found that the land along that
818 canal has been irrigated and paid for by Miller & Lux to this company?

A. Yes.

R. D. Q. 105. So far as you know, it is simply used as a distributing ditch?

A. That is what I suppose it is, except at times when Miller & Lux may be entitled to use it for non-riparian lands.

R. D. Q. 106. Under the conditions you have mentioned?

A. Yes, when we are not able to supply them.

(By Mr. LANGHORNE:)

Q. On non-riparian lands?

A. Yes.

(By the MASTER:)

Q. These distributing ditches are all owned by private parties?

A. Yes sir.

Q. Parties whose lands are being irrigated?

A. Yes sir.

(By Mr. TREADWELL:)

R. D. Q. 107. This morning, in giving your testimony in regard to the legal expenses set forth on Exhibit 16 for 1907-8, ending June 30, 1908, you attempted to state the amount of those legal expenses which accrued after the 25th of November, 1907, and in regard to the case of Miller & Lux vs. Stevinson and the Turner Estate vs. the Eastside, the legal expenses of which amounted to $6,911.10, you began to state that $8,444.75 in regard to those cases accrued after November 25, 1907, and you then noted that exceeded the amount charged for those cases. Can you explain how that apparent discrepancy happened, Mr. Merritt?

A. Yes. When I called the book-keeper's attention to that, during the recess at noon, he reminded me that he had come to me with the difficulty in making up this statement for the year ending June 30, 1908, with the difficulty of distributing through those various suits the balance carried over from last year, and that had been paid Miller & Lux last year in excess of the amount that had been paid by them at that time. I told him that I thought
819 that for the present purposes it would be sufficient if he simply deducted that whole excess from that item here, naturally the largest item, that would give us the total results that we were after, although it would be put to that one item, and that thereafter

it could be deducted from the different litigation payments. This item amounted to over $9,000 and that left this balance $6,911.10. That circumstance had escaped my mind when we were talking about it this morning, and he showed me the memorandum that was made at that time, and I then recalled that that was the fact that I had told him to make the deduction from this single item rather than try to distribute it, because that would be an impossible thing to do any way.

R. D. Q. 108. And so your correct answer, I suppose, would be that of that amount, $6,911.10 which you charged to them in that case had been paid since the 25th of November, 1907? Would that be the result?

A. Yes; that $6,911.10 is an understatement of the amount that was actually paid during that year; and the amount of $8444.75 actually was paid on that account, and the other items that I also gave were actually paid on that account during that period.

R. D. Q. 109. But rather than attempt to distribute it, you deducted it from that one item?

A. Rather than attempt to distribute it, we deducted it from that one item; so that there is an overstatement here in my memorandum of the amount that was paid during the period from November 25, 1907, to June 30, 1908, but that apparent overstatement is not an error as it would seem, because the difference between that and the statement in—I think it is Exhibit 16—should be distributed through the other items.

R. D. Q. 110. In answer to Mr. Langhorne you stated that you could not tell exactly what these legal expenses were incurred
820 for. You do know, don't you, in a general way, what they were for?

A. Oh, yes, in a general way.

R. D. Q. 111. What for?

A. Mostly for atorneys' fees and court expenses of various sorts; printing is a large item; reporting is a large item.

R. D. Q. 112. But it includes then, I understand, attorneys' fees, reporters' fees printing and transcribing, witness fees and any matters which are ordinarily connected with litigation?

A. Exactly so.

R. D. Q. 113. In making up your profit and loss account for the year 1908, you included the gross receipts for water and that included, did it, Miller & Lux's bills as well as other consumers' bills?

A. Yes.

R. D. Q. 114. And so far as Miller & Lux's irrigation is included in there, that was as reported to you by the engineer at that time in making the adjustment on the basis that you have testified to?

A. Yes. That was the way it stood at that time.

R. D. Q. 115. I understand you to state that he is still taking it?

A. He is still taking it; and of course it is understood that this may be, subject to some slight alterations on account of changes which he may have to make in verifying his account. That will apply to the statement, also, of acreage for this year, that I submit elsewhere. It may be subject to some slight alteration, a few cor-

rections which he may have to make in his figures. I might say in that connection that there are always changes made in the acreage statement after the first figures that come in, to show the results of an irrigation season. It turns out that somebody has been overcharged or somebody has been undercharged, and there are slight alterations that are necessary; and my figures may be subject to some change in that regard.

821 Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. In regard to that telephone line, when was it put in first?

A. I don't know. The company bought out a telegraph company that was doing business there when they first began work I think, and they operated it first as a telegraph line during the early stages of its construction; then it was converted into a telephone line and when I first became connected with the company, in 1883, it was being operated as a telephone line.

R. X Q. 2. Now the expense of keeping it in operation is borne by whom?

A. By the canal company.

R. X Q. 3. You say that it is used by the Miller & Lux ranches, is it not, in communicating from one ranch to another?

A. To some extent, yes.

R. X Q. 4. Have you ever made any inquiry into the extent to which it is used for that purpose by Miller & Lux or by Miller & Lux's employes in connection with Miller & Lux's own business?

A. No, I have not.

R. X Q. 5. Then it has been used by Miller & Lux and their employes in connection with Miller & Lux's own business for a good many years, has it not?

A. Yes, more or less.

R. X Q. 6. Now in regard to the general superintendence expense, this engineer of the company is paid, you say $70 by the canal company, and he is also the engineer for Miller & Lux?

A. Yes.

R. X Q. 7. And for the Las Animas & San Joaquin Land Co.?

A. Yes.

R. X Q. 8. And for the Borland Land Co.?

A. I don't think he has ever done anything for the Borland Land Co. I don't know as he has ever done anything for them. He would be called upon *them* by them if they had anything to do.

R. X Q. 9. And for the engineering business, and so on, of Miller & Lux, in relation to their lands, in connection with this
822 canal?

A. Yes I don't know that he has ever done anything for the Las Animas. He may have. His work is principally for Miller & Lux and in connection with this company.

R. X Q. 10. He is the general engineer then not only for the canal company but for all of these people you have mentioned who are buying water from the canal company is he not?

A. No I don't know how you can make that appear.

R. X Q. 11. I mean to say he is the engineer for the canal company and for Miller & Lux and for the Las Animas Company that are buying water from the canal company?

A. He is the engineer for Miller & Lux.

R. X Q. 12. Well now then, is he the man who is making these measurements and estimates you have been talking about under this exhibit E?

A. He is not making measurements personally. He is at the head of the department.

R. X Q. 13. His employès are making them, are they not?

A. The employès that are under him are making them.

R X Q. 14. That is, in regard to the bills that you are having made up to charge Miller & Lux under exhibit E, this same gentleman who is the engineer for the canal company is making those up, and he is at the same time the engineer for Miller & Lux?

A. Yes sir, the same man.

R. X Q. 15. What salary does he get from Miller & Lux?

A. I think his salary is $150 altogether, and the canal company pays $60 of it, and Miller & Lux pay $90, the rest.

R. X Q. 16. By "the rest" you mean the rest of his salary?

A. The rest of his salary is paid by Miller & Lux.

R. X Q. 17. Now you say in the statement you have brought here in regard to the cost of the construction of the canals, the structures, you have not included depreciation of the canals, or of the structures?

A. No.

823 R. X Q. 18. But in this maintenance account that you have filed here, haven't you got—for instance, taking exhibit 16, profit and loss for the year ending June 30, 1908, you have got "canal cleaning $15,760.44." That is a part of what you might call Depreciation Account, is it not?

A. You possibly might so consider it. I don't understand that was included—I didn't understand that it was included, though, in the question that was asked me the deterioration of structures that I was considering. That has nothing to do with structural work. This is Canal Cleaning Account. It is the removal of deposits from the bed of the canal.

R. X Q. 19. Now you have an item in exhibit 16 of $11034.05 for labor. Would not that item include the labor on the repairing of bridges and making these measuring gates and other things?

A. Oh, certainly, certainly it would.

R. X Q. 20. Is not that true also of these other maintenance accounts that you have put in here, that you have included the annual cost of cleaning the canals, dredging the canals and labor of repairing the different structures of the canals?

A. Oh yes.

R. X Q. 21. Now in one item you have got "Labor" and "Piles" in that same account, $822.08; "measuring boxes, $1247.72", and "Orrestimba, $2,760.47", so that in these maintenance accounts

here that you have put in evidence in this testimony, you have practically covered what might be called depreciation?

A. Yes, in a sense. The cost of repairs and replacements to prevent deterioration in the value of the company's property is of course charged in our annual maintenance account.

R. X Q. 22. Now in regard to this contract, Exhibit G, with the Borland Land Co., was any showing made to the canal company at the directors' meeting you have referred to in that connection, or at any other time, showing that the Borland Land Co. owned the 1200 cubic feet of water which if gave by that agreement to
824 the canal company?

A. Oh, no, no such claim was ever made by anybody.

R. X Q. 23. Now I understand that the $9,000 paid to Mr. Henry Miller or rather, to the Borland Land Co.—and it apparently so appears from that agreement—was in consideration of this transfer of this water interest of 1200 cubic feet per second? Is that not so?

A. No, the contract don't say so.

R. X Q. 24. What was the $9,000 paid for?

A. Well I think the record shows pretty clearly what it was paid for.

R. X Q. 25. I beg your pardon. I have been trying during all the cross-examination to find out and I have not been able to find out what that was paid for.

A. It was paid in lieu of legal expenses that would have to be incurred to get that judgment in favor of Borland reversed and the judgment of Borland against the company seriously impaired the company's rights to divert water and would have cut them down to a considerable extent, and the company wanted to be able to maintain its rights to divert 1200 feet, and in order to be able to maintain its rights to divert 1200 feet it had to get this judgment against it reversed; and it was cheaper to buy the man out than it was to go into court and get the judgment reversed.

R. X Q. 26. I understood you to say on cross-examination that this agreement was made and this money paid to the Borland Land Co. after Mr. Henry Miller had bought out the interest of the Borland Land Co.

A. Yes, he bought out Borland and took the title over in the name of the Borland Land Co., with a view of being able to make this arrangement with the canal company so that the canal company need not go into court and get that judgment that Borland had secured, reversed. His investment in the Borland Land was made with the intent of doing this that was done afterwards, and he would have had no motive in buying the Borland land if he had not wished to protect the interest of the canal company and if the
825 canal company had not been willing to bear the expense that was entailed on Miller & Lux in order to get the adjustment which they desired without the expense of going into court.

R. X Q. 27. Did Mr. Henry Miller, after he bought the interest of the Borland Land Co., threaten the canal company that he would fight that case on appeal as against the canal company, and that he would only abandon his rights after the judgment in that case

that the Borland Land Co. had recovered, in consideration of paying him $9,000?

A. No, it was no threat at all. It was simply an arrangement before Mr. Miller had bought out Mr. Borland at all, that if Mr. Miller was willing to buy that land, which he did not particularly want, the canal company would contribute this amount in order to enable it to get rid of that judgment. That was the understanding that was reached before Mr. Miller invested in the Borland land at all.

R. X Q. 28. Yes, I understand; but if Mr. Miller, who was then the president of the canal company, and was buying the interest of Borland in order to protect the canal company, how was it that if that was so, how could there be any danger that the judgment that the Borlands had recovered would be enforced by Mr. Miller against the canal company?

A. This agreement was simply the carrying out of an understanding that had been had before Mr. Miller got the land.

R. X Q. 29. I understand; but you said a little while ago that the $9,000 was paid because it in some measure represented the amount of costs and expenses which the canal company would have paid if they had had to appeal from the judgment against them in the Borland Land Co. case.

A. Yes, if Mr. Miller had not stepped in and bought the land, then the only other remedy would have been for the company to appeal from the Borland judgment.

R. X Q. 30. And pay out the sum of $9,000?

826 A. We estimated that it would be a great deal more than that.

R. X Q. 31. Now then, Mr. Miller stepped in and bought into the Borland matter and still you paid the $9,000?

A. Your idea is that after he got the land the canal company ought to have refused to contribute?

R. X Q. 33. I want to know what the $9,000 was for? You say it was for the expenses, the estimated expenses of fighting the case on appeal, and then you say that there was no appeal, because Mr. Miller came in to protect the canal company and they paid this $9,000, which is the estimated cost of the appeal, to Mr. Miller, although it had not been incurred?

A. Mr. Miller bought what he did not need to buy and paid for it more than it was worth in order to avoid the necessity of incurring this bill.

R. X Q. 33. Now, we are getting at it. Now then, does the $9,000 represent what you said a little while ago it represented, the estimated cost of this appeal, or does it represent what Mr. Miller paid for the land more than it was worth, that is, the cost over what the land was worth?

A. Well, of course the latter. We never said that it represented what the expense would be, because we estimated the expense would be a great deal more; but of course the object was to reimburse Mr. Miller for what he had paid in excess of what he deemed the land to be really worth, so that he should not be personally a loser by making an investment that was legally in the interest of the canal company.

R. X Q. 34. Now that is entirely a different statement from what you made at first about the consideration of the $9,000.

Mr. TREADWELL: I submit that it is just the same.

By Mr. LANGHORNE:

R. X Q. 35. You just stated that it was to recompense Mr. Miller on account of these expenses that were estimated to be $9,000. Now then, was there any inquiry at the time this Exhibit G was made by the canal company as to the value of the lands or water
827 rights of Mr. Miller, that he had purchased from the Borland Land Co.?

A. I don't know just what was done in that way. I know that the matter was thoroughly discussed with the trustees, but whether it took just that phase I do not now recollect positively.

R. X Q. 36. The canal company had up to the time of that agreement, Exhibit G, paid all the legal expenses that it had incurred, had it not, in fighting that suit?

A. Yes.

R. X Q. 37. That $9,000 did not represent any portion of those legal expenses?

A. Oh, no.

R. X Q. 38. How much land did Mr. Miller get from the Borland Land Co.?

A. I don't remember the acreage.

R. X Q. 39. And he got certain water rights from them, did he not, when he bought?

A. He got the water rights that went with the judgment.

Mr. LANGHORNE: Have you the record in that case—that is, the complaint and the answer and the findings and the decree? Did it go to the supreme court?

Mr. TREADWELL: No, it did not go to the supreme court.

By Mr. LANGHORNE:

R. X Q. 40. You have that, I suppose as the secretary of the company?

A. I have not personally got them.

R. X Q. 41. The canal company has them or the attorney?

A. He can answer that himself.

Mr. TREADWELL: We will produce any information in regard to those cases that you want. Mr. Merritt would not know anything about it except in a general way.

By Mr. LANGHORNE:

R. X Q. 42. Why was it that the $9,000 was put in Maintenance Account?

A. We regarded it at the time that the entry was made, as being substantially a legal expense item, because if it had not been invested, if it had not been paid out, I should say to the Borland Land Co., in the pursuance of the understanding or agreement with Mr. Miller

before he made that investment in that land, a large sum
828 would have had to have been paid out to get the judgment reversed, and that would all have to be charged to legal expenses; and therefore, it seemed that the proper place to put that charge was to legal expense account.

R. X Q. 43. Then you realized that you got no 1200 cubic feet of water for the canal company?

A. Oh certainly.

R. X Q. 44. How much water did the Borland Land Co. claim?

A. I think about 60 feet; what the judgment gave them.

R. X Q. 45. 60 cubic feet per second?

A. 60 second feet, yes.

R. X Q. 46. Well, did Mr. Henry Miller of the Borland Land Co. ever convey to the canal company any lands or other property which he might have had conveyed to him by the Borland Land Co. in this matter?

A. He never conveyed any lands.

R. X Q. 47. You say you don't know the amount of lands that Mr. Henry Miller received in that matter?

A. No, I don't remember the acreage.

R. X Q. 48. Was it as much as a thousand acres?

A. Yes, I should think so. I don't remember now. I don't like to guess at those things. I can find out exactly and let you know, if you want to know.

R. X Q. 49. I would like to know what that property amounted to, the lands and other property.

A. I suppose he also purchased some water rights. The purchase included that.

Mr. TREADWELL: They were all appurtenant to the land.

(By Mr. LANGHORNE:)

R. X Q. 50. That Exhibit 18, that contract of October 20, 1908, Complainant's Exhibit 18, on page 8, paragraph 11 of that exhibit, it appears that the party of the third part, the San Joaquin & Kings River Canal & Irrigation Co., agrees to furnish to the fourth party, which is the Borland Land Co., without charge, sufficient water to irrigate the lands that the Borland Land Co. desires to irrigate when
it cannot irrigate under this agreement and when the third
829 party has water not required by the other consumers. Do you remember that?

A. I remember there is some such provision as that. I don't remember it exactly.

R. X Q. 51. Has that ever been acted on by the canal company?

A. No, not yet. What do you mean by "acted on"?

R. X Q. 52. I mean have they furnished water to the Borland Land Co.?

A. No, there has been no water furnished there by the canal company. I think the construction work has not been completed far enough so that they can. That is my impression. I am not sure of the facts, though. I have never been on the land and I cannot speak from knowledge.

R. X Q. 53. Why did the canal company agree to give the Borland Land Co. water for irrigation without charge?

A. I don't like to speak as to the terms of that contract without having it before me. I cannot carry the points of it in my mind sufficiently well.

R. X Q. 54. In regard to that contract, complainant's exhibit 18, will you look at that language?

A. (Reading paragraph 10 of complainant's Exhibit 18:)

10. The party of the fourth part hereby transfers, conveys and sets over unto the San Joaquin & Kings River Canal & Irrigation Company Incorporated, the party of the third part, any right which at the time of the execution of this agreement the party of the fourth part may have to divert the water of the San Joaquin River flowing in Fresno Slough at all times when there is less water flowing in said San Joaquin River than twenty-five hundred (2500) cubic feet per second at the head of Lone Willow Slough above mentioned, and the said party of the third — may so far as the fourth party is concerned change the point of diversion, or the manner of diversion of said water, and may divert the same at any point upon the San Joaquin River and in any manner it desires.

This is the substantial consideration.

R. X Q. 55. And the $9,000 mentioned in that other agreement? I thought that was the consideration for the water rights granted by the canal company to the Borland Land Co.

A. No.

R. X Q. 56. In regard to what is known as the River Canal which I in my other questions have called the little canal, is
830 there any measuring gate on that for measuring the water coming into it from the San Joaquin river?

A. I am not aware of the facts as to that.

R. X Q. 57. You are not aware of that?

A. No, I don't know what the facts are.

R. X Q. 58. Now then, as to these expenses in Exhibit 16 that you have described there under Miller & Lux against Stevinson and the Turner Estate against the Eastside Canal Co., $6,911.10, do you know of any contract or agreement by which the canal company is secured so as to reap the benefit of any judgments which the plaintiffs in those cases, or either of them, might obtain if they won those suits?

A. I don't know of any written contracts.

R. X Q. 59. Do you know of any verbal contracts?

A. Yes, I know of a verbal understanding in the matter that in the nature of the case would follow in view of the fiduciary relations between Miller & Lux and the canal company.

R. X Q. 60. I asked you those questions about the other cases this morning. My recollection is that you said there was no contract of any kind.

Mr. TREADWELL: He said he didn't know of any.

(By Mr. LANGHORNE:)

R. X Q. 61. You said you didn't know of any. You don't know of any now, do you? Of your own knowledge?

A. I don't know what you mean when you speak of a contract in that connection. Your legal definition of the term "contract" is what I don't understand.

R. X Q. 62. Two competent parties whose minds meet in regard to a subject matter. I understand, though, from your examination this morning as to those cases, that your answer was that you knew of no such agreement. Now you say that there might have been a verbal arrangement. Do you know of your own knowledge of any verbal arrangement?

831 A. I can't recollect of anything now that would be called a verbal agreement. Of course a great deal has taken place in the discussion of these matters when I was not present, and I don't know as to those matters. I only know that Mr. Nickel has stated to me from time to time that such and such would be the results of such and such litigation. Whether or not you would call that an agreement I don't know.

R. X Q. 63. In other words, what you said about equity in your answer a while ago leads me to believe that you believed that if the plaintiff in either of those cases recovered a judgment, that in some way they would make an agreement that the canal company would benefit by that judgment; that in equity they would be called on to do it if the canal company paid part of the expenses.

A. Yes, I know that that was the intention, that if they recovered judgment the canal company should benefit by it.

R. X Q. 64. But there has been no formal agreement by the canal company or by Miller & Lux in regard to that?

A. I am not aware of it.

R. X Q. 65. Those estimates under Exhibit E, you say are now being made up by the engineer and his staff. Will he produce them or will you produce them?

A. I will produce them.

Further hearing adjourned to Thursday, November 5, 1908, at 10 A. M.

832 THURSDAY, *November* 5, 1908—10 a. m.

Counsel appearing:
For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of W. C. HAMMETT, called for complainant. Sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Hammett?
A. San Mateo.
Q. 2. What is your business or profession?
A. Civil engineer.
Q. 3. Were you educated as a civil engineer?
A. I was.
Q. 4. How long have you followed that profession?

A. Fifteen years.

Q. 5. What experience have you had in regard to engineering and matters of construction, and matters of that kind, during that time?

A. Detailed?

Q. 6. In a general way, yes.

A. I was engineering inspector on construction work with the Chicago & Northwestern Railroad in 1904-5; I was division engineer in charge of construction work with the Mexican Central Railroad from 1896 to 1900; I was superintendent of construction for the Guggenheim Exploration Co. from 1900 to 1903; I was assistant chief engineer of the New York Central & Hudson River Railroad in the construction department in 1903; was superintendent of construction for the Mountain Copper Co. from 1903 to 1906; superintendent of construction for the Mammoth Copper Co. from January to July, 1907; and chief engineer for Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Co., to date.

Q. 7. When did you enter into the employ of the San Joaquin & Kings River Canal & Irrigation Co. and Miller & Lux, Incorporated?

A. In 1907.

833 Q. 8. And have been in their employ ever since that time?

A. I have.

Q. 9. Are you familiar with the canals and works of the complainant in the counties of Fresno, Merced and Stanislaus?

A. I am.

Q. 10. Have you been all over the works?

A. I have.

Q. 11. Taking those works in a general way, Mr. Hammett, and comparing them with other irrigating systems I would ask you whether there is any extraordinary difficulty in the engineering problems in connection with the construction of those canals and works?

A. I should say not. I should say, on the contrary, that it was very simple.

Q. 12. Comparatively it is a simple canal to build?

A. Very.

Q. 13. And as to the general construction of the canal, I would ask you whether or not, comparatively speaking, you would say that the method of construction of the structures used, is a practical, economical method, or whether the structures are exceedingly expensive ones for the work they are designed to perform.

Mr. LANGHORNE: I object to the form of the question. That is practically a leading question. I don't object to a certain amount of leading questions, to get along, but when counsel puts his questions in the alternative form, like that, it is entirely too leading.

The MASTER: I think the question is objectionable. You might call the attention of the witness to the particular fact that you want him to testify about. You can put it in some other form.

(By Mr. TREADWELL:)

Q. 14. In building a canal or canals, and headworks and gates and structures ordinarily connected with canals, I would ask you, Mr.

Hammett, if there are in use on different canals, different kinds of structures, varying in their expensiveness, on different canal systems?

834 A. There is a wide difference in canal systems, and they run a great deal according to localities. That is, there will be a certain system which is followed by all the canals or practically all the canals in a certain locality or a certain part of the country, and that system will vary more or less in that locality, but the system will be carried out entirely with only a few variations; but between localities there is a wide difference.

Q. 15. I would ask you how the canal compares in that regard—these canal works—as to the relative expensiveness of the method of construction in this canal and the works of this complainant?

A. The system used in the San Joaquin, and of which the San Joaquin is a fair example, is what is known as a cheap construction.

Q. 16. And by "cheap construction," what do you mean?

A. That the simplest and most economical form of structures are used; no concrete work; all frame structures.

Q. 17. Have you examined the report made by Mr. R. H. Goodwin as to the structures and works of the complainant, and marked here as "Complainant's Exhibit 1"?

A. I have.

Q. 18. Did you at any time make a detailed examination of the structures and works of complainant?

A. I did.

Q. 19. At the time of doing that did you have this report of Mr. Goodwin before you?

A. I had.

Q. 20. And in a general way will you state the character of the examination that you made at that time?

A. At that time I went over the canal system and examined it structure by structure, the ones mentioned in Mr. Goodwin's report and fixed on its state at the time of the examination.

Q. 21. When was this examination made that you now refer to?

A. In September of this year.

Q. 22. And did you at that time verify the estimates of Mr. Goodwin as to the amount of lumber, material, &c., in each of

835 those structures?

A. I did not, except in a general way, from my knowledge of the character of the structures. That is, I have constructed in the past years, several structures of the same class as those mentioned in the report, and made out bills of material for the same; and I compared in a general way the amount of material and the cost of the structures with the amounts and costs given in Mr. Goodwin's report.

Q. 23. That is, as I understand you then, you did not attempt to make a detailed re-estimate of the exact amount of labor and material in each structure?

A. I did not.

Q. 24. But you did to a certain extent compare it with structures of which you knew the contents, of your own knowledge?

A. I did.

Q. 25. And so far as you did attempt to verify his report as to the contents of these structures, will you state whether or not it conformed with the facts as you knew them to be?

A. They compared very closely to what I would have estimated them myself.

Q. 26. In regard to this report of Mr. Goodwin's, will you state whether or not it is so prepared that any one can find the structures that are referred to in the report?

A. It is very systematically gotten up, by a system of railroad stationing, so that the position of any structure can be immediately located.

Q. 27. And were you or were you not able to locate generally, the structures referred to in this report?

A. I was. I can positively identify any structure in the report.

Q. 28. Now you say that you went over each one of those structures, as I understand you, at that time, to determine the exact condition of the structure at that time? Is that correct?

A. That is correct.

Q. 29. Had you been familiar with the canal from, say, the first day of July, 1907, to the time that you made that examination?

A. Well, from the time that I went to work for the canal
836 company, which was the latter part of July, until date, I was very familiar with the canal. In fact, as soon as I entered the employ of the company, I began by going over the whole system, the first week that I was in their employ.

Q. 30. And did you know the changes, if any had been made, in any of the structures during that period, that is, from July, 1907, until the time you made this examination in 1908, in detail?

A. I did.

Q. 31. I would ask you whether or not your examination was directed to the determining of the condition at the time you made the detailed examination in 1908, or at some other time?

A. I calculated the condition back to the first day of July, 1907.

Q. 32. Will you state exactly what you did in the time you made your detailed examination, in order to arrive at the condition of the structures? Did you examine each structure?

A. I examined each structure and looked at all parts of the wood work which were in sight, which could be examined; and in making my calculations I considered that all parts of the wood work which are continually below water, have a very long life. In fact, it is a well known thing that timber which is constantly wet is practically permanent; although I did not consider it so in my calculations.

Q. 33. You did, then, as I understand it, make a calculation and an estimate, showing what you considered the condition of the structures was at the time you have mentioned?

A. I did.

Q. 34. Now in making your calculations, did you accept any particular amount as the cost of reconstructing those structures anew, in July, 1907?

A. Oh yes, I took Mr. Goodwin's report. In fact, I merely took his report and went over the whole canal system, determining the

condition of the structures of which he has given the valuation in his report, and accepted his report in its entirety, as to the
837 reconstruction value.

Q. 35. Then taking his estimate as being the correct amount which it would take to reconstruct those structures anew in 1907, you attempted to determine the difference in value between those structures and new structures at that time, and their actual condition as you found them?

A. I did.

Q. 36. You stated, I think, Mr. Hammett, that in determining the present condition of the value of a structure you gave a certain length of life to a structure below the water. How in regard to structures above the water? Is the life of such a structure longer or shorter than structures below the water?

A. A structure generally gives out first over the part of the structure which is alternately exposed to wetness and dryness. That is, wherever it is subjected to wetting, and then afterwards dries out, that part rots very quickly. But all parts which are subjected to the weather have a much shorter life than the parts which are protected from the weather. I believe that insurance companies generally consider the life of a building to be 35 years, but that building is protected by paint, from the weather, while a canal structure is not.

Q. 37. What has your experience shown you to be the approximate life of structures below the water, not subjected to alternate wet and dry seasons?

A. I have never seen a structure below water give out at any age, due to the rotting of the timber.

Q. 38. And what has been your experience of the superstructure that is above the water? What is the approximate length of life of a structure of that kind?

A. The timber above the water lasts from 15 to 20 years.

Q. 39. You state that you have never seen a sub-structure destroyed by mean*d* or ordinary rotting; but considering its connection with the superstructure, what has been your experience
838 as to the approximate length of life of the entire structure which is partially above and partially below the water?

A. You cannot consider the total structure as having a particular life; for when the part above the water gives out a new structure can be erected on the same floor system; so that you can consider the life of the structure, the life of the part above the water, by the proportion of the structure which is above the water.

Q. 40. And about what number of years does that proportion work out?

A. I figure it as 33 years, in general, with modifications, according to the structures.

Q. 41. But in general, then, your figures are based on your conclusion that on the average you consider that the entire structure would last 33 years, and that that would be a fair estimate as to the life of a structure as a whole?

A. Yes.

Q. 42. Following out that method, Mr. Hammett, will you state

how you arrive at the present value of a structure, a particular structure?

A. Well, I would examine the superstructure of a certain work or bridge, and would consider that that had a certain age, which I would determine from the condition at the time—from the condition of the timber. Then I would deduct from the original value of that structure a certain percentage, depending on the age, as it appeared to be at that time. It was a rough method of doing it, but since I was unable to determine the actual age of the structure, and had to guess at the age that it was, from its appearance, the percentage was in a manner arbitrary, also.

Q. 43. That is, the percentage was based upon your determination as to its age, by an examination of it?

A. Yes.

Q. 44. You say that is a rough way of getting at the age of a structure, but is there any other method that is as good, or as accurate, to get at it, as an examination of the structure?

A. No, I don't think there is.

839 Q. 45. I will ask you whether or not, going over this canal generally, the structures generally appeared to have been built at one time?

A. Oh no, they are of various ages.

Q. 46. They vary through a great many years, do they?

A. They do.

Q. 47. So it would be impossible, as I take it, for a person to make any theoretical, horizontal cut on the entire works, or anything of that kind, in order to come to any conclusion?

A. No, he could not.

Q. 48. Will you state to the court, Mr. Hammett, how a new canal, newly built, differs in its effectiveness from an old canal, so far as the earthwork is concerned, irrespective of the structures?

A. Yes sir. Well, for the first few years, the number of years depending a good deal on the character of the soil through which the canal runs, there is not only a great deal of seepage from the canal, due to the loose soil, but there is also quite a bit of danger connected with operating the canal, due to the banks not being compacted, and water getting out through small crevices between the clods in the banks and starting a stream out which will make a washout; also from the structures not being compacted and well bonded around the footwalls, and "blowing out," as it is called, which makes a new canal rather precarious of operation. After it has been operated a few years, depending, as I say, on the nature of the soil, things get in a condition so that it stays about the same from year to year. The apertures between the clods get filled with silt, and the same way the footwalls and the floor settle and get well silted around, so that it stops the leakage from the canal, stops both seepage and leakage from the gates, which tends to blow out the gates.

Q. 49. Have you given attention to the amount of loss from seepage and evaporation in canals?

A. I have, in a general way, but I have been unable to get accu-

rate figures on them. Figures are very hard to get, due to
840 people wanting to get water through and not caring much about the measurements.

Q. 50. But have you experimented yourself in order to determine the amount of loss by seepage and evaporation in canals, new and old, and otherwise?

A. I have with old canals; but as I say, on new canals I have been unable to get figures except in a general way, because we have no new canals of our own, and with other people's canals, they do not seem to care much about the figures, and so it is impossible to get accurate figures from them. They do, however, state that the loss is in a general way, so much, but there is nothing accurate in those figures.

Q. 51. Well, irrespective of the exact figures, are you able to approximate the difference in loss between a new canal and a well-silted canal, from the experience you have had?

A. I am able to assume it at a quantity which I am sure is less than the actual quantity. That is the best I can do.

Q. 52. That is, to a certain degree you would be able to give what would inevitably be the leakage and seepage in this canal if it were built and completed today and put into immediate operation?

A. That is what I meant to state, yes.

Q. 53. It might be greater than you estimate; but you mean that you can give an estimate which you are sure of?

A. Which I am sure would be the minimum quantity.

Q. 54. What examination, if any, have you made of the canals of complainant in order to determine the amount of actual seepage and evaporation in the complainant's system of canals as they now exist and of during the year 1907-8?

A. In August 1907 I had measurements taken over the whole San Joaquin system, and determined the amount of loss of water during a short period during that month, a period of seven days, in fact, was all that I was able to collect proper figures on, due to the inexperience of the men that I had at work on it. So I had
841 to throw out the first two weeks of their work, and the third week they got in figures which could be taken. Then in 1908 I had continuous measurements taken from the 1st of July until the last of August, to determine the exact amount of loss from seepage and evaporation in the canal.

Q. 55. Did you find the loss by seepage and evaporation in the canals to be the same at all parts of the system?

A. I didn't get it segregated by parts of the system this year. Last year I had it segregated—the parts—but do not remember whether it gave the sum in percentage per mile or not. I can see by referring to my notes here. (After examining.) I find that it was about a half greater in per cent per mile for Merced and Stanislaus counties than it was for Fresno.

Q. 56. That is, in 1907?

A. That is in 1907, yes.

Q. 57. Now will you state the result of your measurements in 1908, the whole result, as much in detail as you think necessary?

A. I have not much detail here. The total loss in second feet per day was 437.26.

(By Mr. LANGHORNE:)

Q. 58. That is, cubic feet per second?
A. Cubic feet per second.
Q. 59. Per day?
A. Yes.
Q. 60. Of 24 hours?
A. Yes, the total amount being taken into the system.
Q. 61. The total intake?
A. The total intake. The water which was being taken in both by the canal company and by Miller & Lux was 1319.65 second feet per day.

(By Mr. TREADWELL:)

Q. 62. What is the point of measurement?
A. Part is taken at the first point of measurement and part at the measuring station at the head of the canal. I have figured day by day, but I have combined them for this calculation.
Q. 63. You mean the amount per day loss?
A. Yes.
Q. 64. You mean that this is the amount per day taken in?

—. ——.

842 Q. 65. And the mean amount per day loss?
A. Yes.
Q. 66. During the time covered by your measurements?
A. During the month of July. The month of August, I have not the measurements here.

(By Mr. LANGHORNE:)

Q. 67. This is for July?
A. This is for July. August, if I remember rightly, I have not got that copied yet. But if I remember rightly, they come practically to the same, for August.

(By Mr. TREADWELL:)

Q. 68. Now what percentage of loss do you figure that?
A. That makes a loss of 33.1 per cent of the total intake. That makes 33.1 as the per cent of loss.
Q. 69. Did you also figure as to what percentage that was, apportioned to the amount of land irrigated in the several counties, or not?
A. I don't quite understand what you mean.
Q. 70. Well, did you have the figure on the total amount of water that was delivered to consumers in a certain county——
A. Yes, I had the actual deliveries in each county, the actual deliveries of water in each county.
Q. 71. Did you or did you not make a computation to show what proportion that amounted to of water delivered to each of those counties?

A. No, I did not. That would be a calculation which would be next to impossible to make. The only thing that I did do in regard to it, I took the proportion which has already been testified to here, I believe, and applied it to the deliveries in the different counties in order to compare it with the total loss which I had got by my measurements.

Q. 72. And what did that show to be the loss for water delivered in Fresno county? What proportion of the waters delivered in that county were shown to be lost by seepage or evaporation, approximately?

A. Do you want my whole comparison?

Q. 73. Just the result.

A. Taking this per cent which is given as 12 per cent in the intake—that is, that the loss of water in Fresno county is 12
843 per cent of the amount taken in, this would be 13.6 per cent of the water delivered.

Q. 74. Will you state, Mr. Hammett, what percentage of the waters taken into the canals for delivery in Fresno county are lost by seepage and evaporation in those canals?

A. I assumed that 12 per cent of the water taken in for delivery in Fresno would be lost; consequently 13.6 per cent of the amount delivered in Fresno county would be lost.

Q. 75. What I want to get at now is the result, and what I want to have approximately is what per cent of the water taken into the canal for the purpose of delivering to consumers in Fresno county is lost in transmission in that county?

A. Then I will omit the intermediate steps and merely give the figures.

Q. 76. Yes.

A. I have assumed that 12 per cent of the water taken in to be delivered in Fresno county is lost by seepage and avaporation.

(By the MASTER:)

Q. 77. In Fresno county? In passing through Fresno?

A. In passing through Fresno; yes.

(By Mr. TREADWELL:)

Q. 78. You say you have assumed it.

A. Yes, but 167.76 second feet were actually delivered in Fresno county in the period of measurement, 1907.

(By Mr. LANGHORNE:)

Q. 79. That was in August, 1907.

A. That was in August, 1907.

Q. 80. For the certain days you mentioned?

A. Yes; which would make the loss 22.8 second feet, the assumed loss.

(By Mr. TREADWELL:)

Q. 81. You say you have assumed 12 per cent. I don't understand what you mean by assuming.

A. That was what was stated a little while ago, that I assumed that I was to consider these figures, since they have been testified to, we were to consider them as assumed.

Q. 82. No, not at all. What I want to get at is what your figures do show to have been the percentage of loss.

A. I testified that in answer to the previous question. I
844 testified that the percentage of loss during that year was 33.1, in the whole canal.

Q. 83. I understand that. Now I want to get at the loss in Fresno county. As I understand, you assumed that it was 12 per cent, but you have not proved it by your figures that it was. Now I don't know whether that is so or not. If it is not so, what is it?

A. I proved that 12 per cent is a little less than it is, but I had to do it by assuming these percentages and finding out what the total loss in the three counties was and comparing it with my total loss, actually measured.

Q. 84. But now disregarding any assumption in the matter, you have a total loss of 33.10 in the entire canal, have you not?

A. Yes.

Q. 85. And you have the total amounts delivered to each of these counties, haven't you?

A. I have.

Q. 86. Now without being given any percentage of the loss as 12 per cent, can't you compute what that loss would be in Fresno county, what the proportion of the loss would be in Fresno county?

A. No. It cannot be accurately done at all while the water is running in the whole canal. Only an assumption can be made, and it can be proved that that is it, according to the assumption.

Q. 87. Well, if you prove that that is it according to the assumption you have proved the assumption, haven't you?

A. I may be wrong, but I don't understand the situation at all.

Q. 88. Can't you give substantially, taking the entire canal system, what this loss amounts to per mile, in the canals of the company?

A. That would be a hard thing to arrive at, because it takes the whole system, including branches and including the canals and branches of the various users so that a loss involving the total
845 mileage would be misleading.

Q. 89. Have you got this proportion of loss aggregated at all in regard to the different canal systems or different parts of the canals?

A. Only by assumption.

Q. 90. Well, in what way?

A. In 1907 I have the actual loss divided into two sections, the actual loss in each section; one section ending at the county line between Merced and Fresno county.

(By Mr. LANGHORNE:)

Q. 91. That would be for Fresno county?

A. That would be for Fresno county. And the actual loss in that was 8.9 per cent of the water taken in and does not include the colony canal system the Dos Palos colony. The other section was

from the county line to the end of the system; also not including the colony canal system.

(By Mr. TREADWELL:)

Q. 92. What does that show?

A. That shows 33 per cent of the water which passes the county line as lost. 29.4 per cent was the total loss in the three counties of water taken in at the head.

Q. 92. What year was that?

A. That was August, 1907. In 1908 I made no segregation between counties, except that I assumed the losses in each of the counties as 12 per cent in Fresno county, 35 per cent in Merced county and 53 per cent in Stanislaus county. I calculated these in actual second feet from the actual measurements of the deliveries of water in those counties, which added up, made a total of 424.1 second feet of loss in the three counties. The actual loss measured was 437.26 feet, which shows that my assumed percentages of 12, 33 and 53, respectively for the three counties, were a little low.

Q. 93. I would ask you this, Mr. Hammett if the actual loss in the three counties is 33.10 per cent, if this canal should be cut right off at the Merced county line, and water simply used in Fresno county, would that loss be a greater percent or a less
846 percent than that, irrespective of your figures? I am just asking your opinion on that subject.

A. It would naturally be very much less than that.

Q. 94. And the percentage of loss, then, increases with the length of the canal, does it not?

A. It increases with the length of the canal

Q. 95. Now you stated that your experience permitted you to come to at least a minimum amount that would be lost in a new canal, and for the first few years of its construction. Will you state what that experience has been in that regard, and what is the amount of loss in a new canal as compared with this canal?

A. My knowledge of that is mainly from observation of a few small, new ditches, and of hearsay in regard to actual canals where water has run in on new canals. For instance, we have at the end of our outside canal a Realty Ditch, which was put in during the past year, and we know how much water per acre it took in that ditch to irrigate. We know that that was about six or eight times the amount that it takes per acre to irrigate under our own canal. Therefore we assume that the extra quantity of water was lost in the canal, due to its being a new canal. It would be probably about five times the amount that is being lost per mile in our own canal. Then I have been told by people who were connected with the canal system—the San Joaquin canal system—that at the time when the extension of the canal was made from Los Banos creek to Orestimba creek, that between four and five hundred second feet were turned into that canal first, in attempting to take it to the Orestimba creek, and that very little of that water reached Orestimba creek; that is, that the loss for that—about 30 miles—was about 400 second feet for 30 miles.

Q. 96. I would suggest that it is better to base your testimony on your general knowledge as to the character of the soils and the way that water does act in new canals, according to your
847 knowledge, and compare it with how it acts in this particular canal, rather than on individual matters of that kind which you have no personal knowledge of. It is a matter of opinion, you understand, on this matter. It is not a matter of knowledge, that anybody can testify to.

A. I was merely giving the general characteristics. It is well known, not only among engineers but also among laymen, that when water is turned on new ground, whether that ground has been shaped in the type of a ditch or whether it is cultivated ground, that the water seeps into the ground and seeps away, depending on whether the ground is silted or not—on the character of the soil, whether it is loose or a close ground—a close-grained soil. I merely wanted to show that two or three times the quantity of water which is now being lost in the canal is a very light estimate of what would be lost in a new canal. My idea is that in the average ground, consisting of a loam, that there would be from three to five times the amount of water lost the first year than there would after the canal is thoroughly silted, and that this silting process would take a number of years, the canal growing nearer and nearer the perfect condition as the years went on.

Q. 97. Take this entire canal system, what would be your opinion as to the amount that it would lose on the average during the years before it got into what you might call a perfect condition?

Mr. LANGHORNE: I object to that on the ground that the witness' own testimony shows that his knowledge as to *k*new canals depends on hearsay, and that he has no knowledge of this canal prior to 1907; and on the further ground that it is irrelevant to any issue in this case, what the loss would be in this canal as a new canal.

The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

848 A. I should say that it would lose three times as much at the start as it would after, say, eight years or so, and that after eight years or so it would practically be silted so that the loss would be very little more than it would after any succeeding number of years.

(By Mr. TREADWELL:)

Q. 98. Did you make an estimate of the increased value of the canals over new canals by reason of the greater quantity of loss in the new canal than the old canal?

A. I did.

Q. 99. Will you state now exactly what you based that computation on—that is, what proportion of loss in a new canal, and what number of years you assumed it would take to get the canal into normal condition, and what the percentage of loss you assumed in the canals in their present condition?

Mr. LANGHORNE: It will be assumed that my objection and ex-

ception to all this class of testimony, as to loss from seepage and evaporation in this canal as compared with a new canal, or as to any testimony as to increased valuation of complainant's canal system by reason of those facts, in regard to loss by evaporation,—that my objections and exceptions to all that class of testimony apply?

The MASTER: It will be so considered.

A. The theory that I went on was this: that if the canal was constructed anew, that there would be a very much increased quantity of water lost in that canal in the first few years, as I have stated. The canal is entitled to a certain quantity of water. We have takers for all that water; and therefore the second feet lost during this few years while the canal was silting up, is an actual loss in dollars and cents. I consider that loss as a block amount equal—that is, that the loss in one year, the present loss in one year, that is, the increased loss because of the canal being new, over this eight years, would be equal to six (6) times the present loss in one
849 year. This is due to the fact that at first, the first year it would be three times as much, but the second year it would be very much smaller; that is, the change in loss for that eight years would not run in a straight line, but would run in a curve approaching the horizontal; that at the end of eight years the loss would be the same from year to year and that the total loss of those eight years would amount to, as I say, a block amount equal to six times the present amount in one year. That amount would be approximately 125,000 second feet for 24 hours. I gave this a value equal to the value per second foot of every second foot which we sold during the past season, 1907-8. This average amount received for every second foot that we sold was $1.05 per second foot for 24 hours, which made the value of this 125,000 second feet of excess loss due to a new canal to be worth $125,250.

(By Mr. TREADWELL:)

Q. 100. In figuring the difference in value between an old and a new canal, in the figures that you have given did you take into consideration the fact that in the new canal the structures would, as you say, be more apt to blow out than in the old canal?

A. I didn't consider that question at all, although it is a very vital question. It is one that we cannot actually reduce to dollars and cents.

Q. 101. And the fact that in a new canal the banks are more likely to be washed out and break, and do damage—you didn't include that?

A. I didn't include that. That would be a matter of possibilities and probabilities that would be a little too complicated to reduce to figures.

Q. 102. It would be impossible, of course, to state it in figures, exactly what it would be?

A. Yes.

Q. 103. But is it or is it not the fact that that is the tendency?

A. It is a very well known fact.

Q. 104. And there is also a road all along the bank of this canal, is there not?

A. There is.

850 Q. 105. And you have not included in your estimate any increased value for that owing to traveling over it until it is all worn down, as over a new-thrown-up bank?

A. No, I considered no appreciation from those causes. The only appreciation I considered was the actual appreciation from the loss of the water itself, the actual loss that would take place in a new canal, due to seepage and evaporation alone.

Q. 106. Are you familiar with the right of way which is in the possession of the complainant along its various canals?

A. I am.

Q. 107. Have you made a computation showing the number of running feet and the width of those various rights of way along the various canals of complainant?

A. I have.

Q. 108. And that is correctly made, is it?

A. It is.

Q. 109. Does the canal company own some property at the head works, ourside of its right of way?

A. It does. It owns a parcel of land there.

Q. 110. How many acres are there in that tract?

A. 78.44 acres.

Q. 111. And do you know how many lots it has in Los Banos?

A. Six lots.

Q. 112. And what is the acreage of the Quinto section house, the property that they have there?

A. The total land around the Quinto section house is 154 acres.

Q. 113. Did you also compute the value of this right of way, assuming that the real estate was worth on an average in Fresno county $15 an acre, and in Merced county, with the exception of the Los Banos lots, $60 an acre, and in Stanislaus on an average of $100 an acre?

A. Those were the figures I used.

Q. 114. Do you claim to know anything about the value of land, or are you simply assuming?

A. I assumed the value, from what I have been told by residents there.

851 Q. 115. You do not mean to testify as to those values?

A. No, I don't know anything about the actual value of land, myself, at all.

Q. 116. Now I show you a document headed "Valuation of San Joaquin & Kings River Canal, by W. C. Hammett, C. E.", and I would ask if that shows the detail examination and computations that you have testified to?

A. It does.

Q. 117. The first page of that is headed: "Summary of Depreciation calculations of S. J. & K. R. C. & I. Co. system up to July 1, 1907." Then in one column you have the names of the canals and in the next column you have certain valuations on those. What is that valuation?

A. That valuation is the valuation shown in Mr. Goodwin's summary.

Q. 118. That is, the cost of reproduction as shown in his report?

A. Yes.

Q. 119. And the next column is headed "Depreciation of Structures", and is that the total amount that you deduct from the cost of reproduction on account of the deterioration of the structure from age?

A. It is.

Q. 120. And that is in accordance with the detailed report which follows afterwards?

A. Yes.

Q. 121. And the next column that you have is "Appreciation of Earthwork", in which you state a certain appreciation in the earthwork, and I ask you if that is based on the difference which you have testified to here between the efficiency of a new canal and an old canal?

A. That is based on the difference and arrived at according to the method which I just outlined.

Q. 122. And the next column is headed "Present value". That I suppose is simply a mathematical deduction showing the difference between the original cost of reconstruction, less depreciation, plus appreciation, if any?

A. That is the way it comes.

852 Q. 123. Now on the next page you set forth the right of way and real estate, and that is the computation that you have testified to, is it?

A. It is.

Q. 124. You don't intend to testify as to the value of that land, but this is just a convenient computation, assuming those values?

A. That is it.

Q. 125. But it is correct as to the acreage, with the length of the rights of way on the property?

A. It is.

Q. 126. Then following that, on page 3, you begin with the detail, do you, of what is shown in the summary that I have referred to?

A. I do.

Q. 127. And from there on to the end of the report it simply consists of a detailed examination of each structure?

A. It does.

Q. 128. And that is separated by counties, is it, also, Mr. Hammett?

A. It is separated by counties. In fact, it follows the general outline of Mr. Goodwin's report, itself.

Q. 129. In that detail you give a certain percent of depreciation; for instance, 25 per cent. That means, does it, that 25 per cent should be deducted from the original cost of producing the original structure anew, on account of its age, that you have reference to?

A. That is it.

Q. 130. I notice that in one or two places you depreciate the

structure a hundred per cent. That might seem a little stiff. What is the reason for that?

A. The structure had been removed between the time of Mr. Goodwin's report and July 1, 1907.

Q. 131. But generally, irrespective of that, as I understand it, you figured your depreciation back to July 1, 1907, did you?

A. Yes.

Mr. TREADWELL: We offer that in evidence and ask that it be marked "Complainant's Exhibit 26.

Mr. LANGHORNE: Defendants object to the introduction of Exhibit 26 on the ground—and also to each of the statements
853 therein contained, and also to the statement of each item therein contained, on the ground that each of the same is incompetent, and also on the ground that each of the same is irrelevant.

The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

Mr. TREADWELL: I would like to state, your Honor, that in offering this evidence in regard to depreciation and appreciation we do not want to be considered as having admitted that we are not entitled to the full cost of reproduction, but we simply wish to prove every fact that would be necessary in any possible view the chancellor might finally take of the method and basis upon which the valuation is to be determined and the rights fixed.

The MASTER: I suppose that is in support of one of the theories of complainant, not knowing what view would be ultimately taken by the master? Am I right in your position, Mr. Treadwell?

Mr. TREADWELL: Yes; without waiving our right to take any position we see fit. We don't want counsel to think that by giving this testimony we are admitting that it is necessary.

Mr. LANGHORNE: Counsel for defendants moves that in view of the statement made by counsel for complainant in regard to said Exhibit 26, that the same be stricken out from the evidence, on the ground that the same is incompetent, and on the ground that the same is irrelevant, and that each itemized statement contained in said exhibit and each item contained in said exhibit be stricken out from the evidence, on the same grounds.

The MASTER: The motion is denied.

Mr. LANGHORNE: We take an exception.

(By Mr. TREADWELL:)

Q. 132. Have you had any experience, Mr. Hammett, during the last year, 1907-8, in construction work on these canals, as to the cost of construction work on them?

854 A. I have.

Q. 133. Have you superintended the construction work on these canals?

A. I have.

Q. 134. What does the carpenter work on gates and weirs and things of that kind cost you, Mr. Hammett, during that period?

A. That is, with the lumber in place?

Mr. LANGHORNE: Do you mean including the price of lumber?

Mr. TREADWELL: Yes:

A. It has cost us as high as $55 a thousand, and in some cases as low as $40 a thousand; but a fair average would be about $47.50, I should say.

Q. 135. What has been the expense of carpentering work on that kind of a structure?

A. It is variable, according to the facilities that they have to work with. For instance, in a weir which has the floor system down in a fairly bad mud hole, the carpenter work would cost more than, for instance, in the case of a bridge where all the framing work is up on top. We generally reckon for weirs and canal structures from ten to fifteen dollars a thousand board feet for the actual erection, and from five to seven dollars a thousand board feet for bridges—for bridge work.

Q. 136. Have you had any experience during 1907-8 as to cost of excavating?

A. I have. We have done quite a bit of excavation work, both with scrapers and with excavators.

Q. 137. What has that work cost?

A. From ten to fifteen cents per cubic yard, according to conditions. In fact, under the best conditions, where the canal is not too deep, excavator work can be done for nine cents, but only under the best conditions.

Q. 138. Do I understand that this was work done by the company itself?

A. Work done by the company itself; yes.

Q. 139. And that does not include any profit?

A. That does not include any profit, no.

Q. 140. Does it include any part of the general manage-
855 ment of the company?

A. No, it does not include any part of the general management of the company; only the actual superintendence on the ground.

(At the hour of 12 m., a recess was had until 2 p. m., when the examination of the witness W. C. HAMMETT was resumed as follows:)

Q. 141. Mr. Hammett, you stated the result of certain measurements you had made for the purpose of showing loss by seepage and evaporation in the canals in the months of July and August. What percentage of loss in the canals is attributable to evaporation, and what loss to seepage or leakage?

A. The evaporation only amounts to ten or twelve per cent of the total loss. The greater part of the loss is due to seepage.

Q. 142. And do you believe that the result shown there in July and August would materially differ from the results through the irrigating season?

A. Not through the irrigating season, since through the irrigating season the canal is being held up to deliver water to the different

consumers, and so the pressure on the sides and bottom of the canal would be the same throughout the irrigating season.

Q. 143. But would the evaporation vary materially during the irrigating season?

A. I believe the irrigating season is considered from about the first of April to the end of August, and the temperature is very uniform during those times, so the evaporation would not vary greatly.

Q. 144. I understand you to state that so far as particular measurements were concerned, which you made, you were unable to apportion the loss shown by those particular measurements to the various counties. And basing your opinion on your knowledge of this canal, and also on your knowledge as to the loss by seepage and evaporation generally, and the total loss shown by those
856 measurements, could you give your opinion as to about what amount per mile would be the loss in those canals?

A. Yes; I think that one per cent per mile would be a fair estimate. In fact, I think it would probably run slightly over that.

Q. 145. What was the condition of the canal at the time you made these measurements, as to leaks, breaks or anything of that kind?

A. It was in good condition.

Q. 146. The loss which you show is simply a loss which cannot be prevented?

A. No sir; it cannot be prevented. It is due only to the cause of seepage and evaporation.

Q. 147. In this report there is set forth certain outlets, measuring boxes, &c., and I would ask you if there are distributing ditches connected with those canals at the various outlets and measuring boxes that are indicated on these reports?

A. With very few exceptions each outlet is the head of a ditch which supplies consumers with water.

Q. 148. And what is the size of those ditches?

A. They vary from a 3-foot bottom to a 20-foot bottom.

Q. 149. What is their relative length?

A. They vary from a few hundred feet to a matter of six or eight miles in length.

Q. 150. Those are maintained by the consumers themselves?

A. They are supposed to be by the consumers themselves, yes.

Q. 151. Did you have charge of making out the bill against Miller & Lux for their irrigation during the year 1907-8?

A. Yes; that is, I computed the quantities of water and the acreages for which they were charged.

Q. 152. Have you kept accounts or measurements of the amount of water taken in during the year at the head of the canal? Have you taken measurements during the year, showing the amount of water taken in at the head of the canal?

A. I have.

Q. 153. Do you also know a canal leading out of the river above the dam, called the Helm canal?

A. I do.

857 Q. 154. Have you also taken measurements as to the amount of water taken in through that?

A. Yes.

Q. 155. Have you had the total number of acres that were irrigated by Miller & Lux with water taken from the canals of the complainant and water taken in at the head of the canal or through the Helm canal?

A. I have the total acreage; yes.

Q. 156. In making out the bill against Miller & Lux did you charge Miller & Lux for the use of water that was taken in from the river through the Helm canal and then delivered into the complainant's canal?

A. They were charged for a part of that water, yes.

Q. 157. Will you state the basis upon which you made out the entire bill against Miller & Lux for that year?

A. The canal company was entitled, according to a previous decision of the court, to 760 second feet of water for use on non-riparian lands. They were also entitled, I believe, to as much water as they wanted for use on riparian lands. Therefore all of the riparian lands of Miller & Lux were charged for at the regular rates. The total water taken in at the head of the main canal and the Helm canal was 62,429.61 second feet for 24 hours. The total land irrigated by that water was 48,926.44 acres under the Helm canal and its branches. I will state in regard to this that the 62,000 odd feet that I mentioned here were only the part used in irrigating the land under the main canal and its branches, the water used in irrigating the land under the outside canal being separated from it. This made 1.276 second feet per 24 hours per acre as the duty of the water. In Fresno county 28,571.3 acres was the total amount irrigated by Miller & Lux, and that would take, at the duty above mentioned 36,456.98 second feet of water, which was 57.9 per cent of the total amount.

Q. Before proceeding with that computation I think if you would be easier to put in this report. I will ask you then if you made a written report showing the manner in which you

858 computed the land which had been irrigated by Miller & Lux with the 760 feet of water which the canal company was entitled to for non-riparian lands, also the acreage which it had irrigated of riparian lands, and also the excess over that, of non-riparian lands for which the canal company had no right to make a diversion, and could only carry for Miller & Lux?

A. Yes, I made such a report under date of October 9, and afterwards in checking it over and segregating for the different ranches I discovered a mistake in the amount of riparian lands, which I corrected in another report under date of October 30. The report of October 30 shows the correct charges, while that of October 9 shows the method of arriving at it.

Q. 159. How many acres did this correction amount to?

A. 111.75 acres, if I remember right.

Q. 160. That therefore makes a slight difference in the computation?

A. Yes sir.

Q. 161. I show you, Mr. Hammett, a letter of October 9, addressed by you to the San Joaquin & Kings River Canal & Irrigation Co, and also a letter of October 30, together with a computation, addressed to the same company, and I will ask you if those are the two reports which you refer to.

A. They are.

Mr. TREADWELL: Simply for the purpose of showing how the matter is computed, I offer those in evidence.

Mr. LANGHORNE: Defendants object to said documents offered in evidence, on the ground, first, that the same are incompetent; secondly, that they are irrelevant.

The MASTER: The objection is overruled.

Mr. LANGHORNE: Defendants except.

(The two documents were joined and marked "Complainant's Exhibit No. 27.")

By Mr. TREADWELL:

Q. 162. As I understand you, then, Mr. Hammett, in making out this bill, wherever the canal company was only diverting 760 feet of water, that all water delivered to Miller & Lux was charged
859 for at the regular prices? Is that correct.

A. Yes.

Q. 163. And that if more than the 760 feet was being diverted but the excess from the 760 feet was being applied to riparian lands, that was charged against Miller & Lux in the same way? Is that right?

A. Correct.

Q. 164. And it was only where more than 760 feet was being applied to non-riparian lands, that you considered that water as Miller & Lux's diversion, and simply charged for carrying it? Is that correct?

A. Yes.

Q. 165. How many acres of riparian land were irrigated by Miller & Lux from the canals of complainant during the year 1907-8?

A. 24,598.3 acres.

Q. 166. Have you made a computation of the total amount of riparian lands which Miller & Lux have under the canals of complainant?

A. I have.

Q. 167. What does that amount to?

A. In round numbers, 122,500 acres.

Q. 168. Do you know a canal that takes out near the dam of the complainant and runs down the river bank a ways, to the Helm ranch?

A. That runs down the river bank?

Q. 169. Well, substantially.

A. Yes, I know that canal.

Q. 170. Was Miller & Lux for the year 1907-8 charged for water that was taken down that ditch?

A. It was.

Q. 171. And treated like any other water that was delivered to Miller & Lux?

A. It was.

Q. 172. Do you know whether any land that Miller & Lux had, was irrigated by that ditch in 1906-7?

A. No, none was.

Q. 173. What was the situation with regard to that, that year?

A. In June 1906 the whole Helm ranch was flooded by the river and all crops irrigated previously were destroyed, and the land put in such a condition that no farming could be done until extensive draining was done, which was completed in time to put in
860 crops for the season of 1907-8.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Hammett, you have been employed by the canal company and also by Miller & Lux in your present position as chief engineer since July 1907?

A. Yes.

X Q. 2. Had you been employed as an engineer on any irrigating canal prior to that time?

A. Not on any irrigating canal, no.

X Q. 3. What sort of a canal had you been employed on?

A. I had not been employed by any canal company. I had had canal work in connection with other work, in connection with work for railroad companies, for instance and for mining companies.

X Q. 4. That is, what sort of canal for a railroad company were you employed on?

A. Impounding canals, for collecting water in dry districts, for use on the railroad.

X Q. 5. More than one canal for that purpose?

A. Yes; in connection with the Mexican Central railroad I put in about six systems of reservoirs and canals leading to them.

X Q. 6. And which waters were in use by the railroad company?

A. Yes.

X Q. 7. Furnishing water to its engines, I suppose?

A. Water for their engines.

X Q. 8. And trains?

A. Yes.

X Q. 9. And in regard to irrigation works such as this complainant's in this case, I understand that prior to July, 1907, you had no experience?

A. No experience in that I had not been employed by the companies. I had seen and had had occasion to observe various canals.

X Q. 10. But you had done no engineering work on any such canals prior to that time?

A. No.

X Q. 11. I understand you made an examination of the canal and structures in September, 1908, and this Exhibit 26 which has been put in evidence represents your figures in regard to the
861 matters shown there?

A. Yes.

X Q. 12. You took as a basis for the purposes of comparison, I believe, the Exhibit 1, namely the report made by Mr. Goodwin?

A. I did.

X Q. 13. And I understand you to say that in making up your report, Exhibit 26, you calculated the conditions of the structures back to July 1907 A. I did.

X Q. 14. Why did you take that date, July 1907?

A. Because I understood that this case was for the determination of water rates for the year 1907-8, and consequently the valuation of the canal was to be at the date of July 1, 1907.

X Q. 15. Didn't you know that the report of Mr. Goodwin, which you took as a basis, was made prior, at any rate or about December 24, 1906?

A. Yes, I did.

X. 16. So that any depreciation of these structures between the time of his examination in December, 1906, and up to July 1907, is not covered by your report here?

A. The report covers all depreciation of the structures from the time they were put in.

X Q. 17. Now in arriving at your figures determining the loss of water from evaporation and from seepage, did you determine the loss from evaporation and the loss from seepage at the same time and by the same sort of measurement?

A. I determined the total loss due to both causes. I did not separate the losses.

X Q. 18. And then how did you determine how much of that loss was due to evaporation and how much to seepage?

A. I did not separate the two. I merely made the statement in the other case that the losses due to evaporation were about 10 to 12 per cent of the total losses on account of certain measurements made there by a Government employé who was making researches there this summer in connection with our own force.

X Q. 19. Now when you were making the examination
862 and measurements in regard to the loss by evaporation and by seepage will you please explain your process in making that determination—that is, what you did?

A. At certain hours each day full hydraulic measurements were taken of all water entering the canal through the head by the first point of measurement——

X Q. 20. Right there, where is that first point of measurement?

A. About 6000 feet from the head gates of the main canal.

X Q. 21. And you took a measurement and cross section there, did you?

A. Yes.

X Q. 22. And the amount of cubic feet of water that was passing per second?

A. Yes sir; also at the head of the Helm canal, as water was also coming in through that headgate.

X Q. 23. Does the Helm Canal discharge into the main canal between this point of measurement and the headgate of the main canal?

A. No, it discharges in below the head of the outside canal, about 3.2 miles below the main headgate.

X Q. 24. Well, after taking those measurements that you have spoken of, what did you do?

A. I deducted from the total intake of water coming out of the canal which was taken on each section by the canal sectionmen in charge of that particular section, and compiled by an engineer in the Los Banos office. These were prepared in the form of daily reports of total water entering and total water leaving the canal system, and the balance was the loss of water.

X Q. 25. Did you only have to take one cross section first at the main canal, first at the measuring station, and then at the Helm canal? Were those all that were necessary?

A. No sir, there were also cross sections taken on the Poso canal. There was too large a quantity of water leaving through the Poso measuring gate to get an accurate pressure measurement; also
863 one at the head of the Colony canal, for the same reasons, that too large a quantity of water is going through to get an accurate measurement by any means but a water meter.

X Q. 26. Well, didn't you take another cross section at some point below these first points of measurement that you took?

A. Not this year; last year.

X Q. 27. In arriving at the loss of water, didn't you take two given points from which to determine between the points — between which points that loss occurred?

A. The other given point is the end of the canal. The loss was for the whole system, but there was no measurement taken at the end of the canal. The measurement is taken out through the outlet.

X Q. 28. Out from the outlet of the canal?

A. Out from the outlet of the canal.

X Q. 29. You took cross-section measurements?

A. No, pressure measurements.

X Q. 30. Did you account or make allowance in your measurement for the water that was running out of the waste gates?

A. Yes; that was always measured.

X Q. 31. There was water running out of the waste gates at times, was there?

A. At times there was.

X Q. 32. Was not the water so running out of the waste gates at the time you made your measurements in August and July?

A. There was water at times. Whenever it was running out it was measured.

X Q. 33. How many waste gates are there on the main canal?

A. Perhaps I had better enumerate them, then you can add them up. The Firebaugh waste——

X Q. 34. Also please state just approximately how far that is from the head of the canal.

A. 7 miles from the head of the canal.

X Q. 35. The next one?

A. Camp Thirteen waste, 25 miles.

X Q. 36. First I will ask you as to each one. Please state the capacity of the waste.

864 A. The capacity of what?

X Q. 37. In cubic feet per second.

A. It would have a capacity equal to the whole canal, if it was opened.

X Q. 38. Well it can be opened, can it not?

A. Yes.

X Q. 39. Well now, the next one?

A. The Los Banos waste.

X Q. 40. About how far is that from the head of the canal?

A. 38 miles.

X Q. 41. And about what capacity is that?

A. Also of the capacity of the whole canal. Each waste gate has a capacity so that the whole canal can be turned out if it were desired.

X Q. 42. And the next?

A. The Quinto waste.

X Q. 43. Are they marked on that map, Exhibit 2?

A. No, they are not. About 52 miles from the head of the canal; the Los Garzas waste, 56 miles; the Orrestimba waste, 68 miles.

X Q. 44. Did you mention a waste known as Camp Thirteen?

A. I mentioned that. That was the second one.

X Q. 45. What is that called?

A. Camp Thirteen waste.

X Q. 46. Isn't there a Leonard?

A. No.

X Q. 47. There is not a Leonard waste?

A. No.

X Q. 48. How are those waste gates arranged with reference to the wasting water?

A. I think in most cases they are simply a vertical weir with flash boards which can be removed.

X Q. 49. I don't exactly understand, Mr. Hammett, the method you pursued in determining the loss by evaporation and by seepage. I thought from your testimony that the examination you made in August 1907 was simply near the head of the canal, was it not?

A. The examination in August 1907, I divided the calculations into two parts. The original intention was to determine the loss in each county, and for that reason I took not only the measurements at the heads of the canals but also the measurements where the canals crossed the county line between Merced and Fresno counties and where the canal crossed the county line between Merced and Stanislaus counties. It afterwards turned out that the measure-

865 ments on the Stanislaus county line were defective, due to an under-leakage in the weir at which the measurements were taken; consequently I had to lump the loss in Merced and Stanislaus counties, which divided it into two parts, and the loss in Fresno county and the total loss in Merced and Stanislaus.

X Q. 50. And you included in this estimate the loss in regard to the water which was taken in at the head of the Helm canal?

A. All of the water which was taken in.

X Q. 51. Have you the records of those measurements now?

A. I have.

X Q. 52. And those records would show, would they not, what water, if any, was being wasted at these waste gates or was running over the boards at these waste gates?

A. It would show.

X Q. 53. That was in August, was it not?

A. August 1907.

X Q. 54. The river and the Fresno Slough are about at their lowest stage at that time, are they not?

A. No.

X Q. 55. How is that?

A. I have not my gauges here, but my memory is that at that time there were about 3000 second feet in the river.

X Q. 56. You will bring in those records that you have, showing what water was being wasted at those waste gates during the time that you made those measurements?

A. I will.

X Q. 57. At all the time that you were making measurements in regard to losses by evaporation and seepage?

A. Yes.

X Q. 58. Now the water that is lost by seepage, what becomes of that?

A. It finds its way down to an impermeable stratum and follows that stratum to wherever the outlet of that is. If there is a slough connecting with that stratum, it comes out in that slough. If that stratum reaches the surface of the ground somewhere below, that water shows on the surface of the ground.

X Q. 59. Well, as a matter of fact, does not a good deal
866 of this seepage water run down and water the lands lying between the canal and the river?

A. No. You mean practically irrigates them?

X Q. 60. Yes, make grass and so on.

A. It can't do it unless it comes to the surface again. If it runs under ground it is harmful. If it comes up around the roots of any grasses or vegetation, it is harmful. If it comes up to the surface and runs on the surface, it is beneficial; but I don't know of any cases where seepage water from our canal system does that.

X Q. 61. There is what they call a drain ditch, is there not, running along the west side of the canal for quite a distance?

A. Yes, there is a drain ditch to catch the waste water from irrigation, from the outside canal, to prevent that water from lying against the bank of the main canal and doing harm to that bank.

X Q. 62. That is not seepage water though, is it?

A. That is not seepage water.

X Q. 63. The canal runs for a distance, does it not, in Fresno county, through some pasture lands belonging to Miller & Lux?

A. I don't know as you would call them pasture lands. It runs through lands which are used for cultivation, belonging to Miller & Lux.

X Q. 64. Haven't you seen cattle down near the canal very frequently?

A. On the outside canal, but not on the main canal.

X Q. 65. And also on the main canal?

A. The main canal — Well I believe that there is one place about Mile Nine where cattle can reach the main canal.

X Q. 66. Haven't you been along the main canal in the last three weeks?

A. Not within the last three weeks, no.

X Q. 67. You don't know then that a great many cattle are pasturing on the west side of the main canal, do you, between
867 the outside canal and the main canal?

A. Yes, there is between the outside and the main canal; that is, on Leonard's division there is a piece of land in there that is used.

X Q. 68. And do not the cattle get into the canal and feed in the canal?

A. They are turned in there during certain times of the year. They are turned in to eat and feed on the vegetation.

X Q. 69. What effect does the cattle standing in the canal and feeding in it have upon the capacity of the canal to hold water properly?

A. It increases it somewhat due to the compacting and feeding off the vegetation and the compacting of the earth around the roots.

X Q. 70. You think it is a good thing for the cattle to be turned in to the canal?

A. I think it is one of the best things for the canal that there is.

X Q. 71. Don't it break down the banks?

A. If the banks are too steep, it breaks down the banks, but with a properly constructed canal where the banks are not over a three-to-one slope, it does not break down the banks.

X Q. 72. Does not a berm form from the silt and other things coming along the canal, where the cattle break the banks down into the canal? Does not that assist the canal in silting up?

A. No, it does not. The berm forms from vegetation starting to grow and that vegetation catching the silt. If cattle were turned into the canal every year, there would practically be no berm formed because they would keep the vegetation eaten down. That is the case in the outside canal where nearly the whole length of the canal is open to cattle and they can come in and feed; and there is hardly any of the outside canal which has any vegetation or berm in it whatever.

X Q. 73. Now the banks are broken down in a great many
868 cases by the cattle—that is, the earth of the banks carried into the body of the canal?

A. Very little. There is very few cases where you find that the bottom of the canal is raised from any breaking down of the banks or from any earth carrying into it.

X Q. 74. About this Exhibit 27, Mr. Hammett, the computation of Miller & Lux's irrigation during the fiscal year 1907-8; that is, as I understand it, for the year ending June 30, 1908?

A. It is.

X Q. 75. You have made no computations as to that matter for any other year except that time, have you?

A. No sir.

X Q. 76. When did you commence to make these measurements of this water with reference to this computation?

A. They were made during the entire year. They were made the same time for Miller & Lux as for any other consumer.

X Q. 77. That is, these computations are based upon the measurement rates, not upon the acreage rates?

A. They are based upon the actual water measurements taken.

X Q. 78. In your water measurements prior to July 1, 1907, the water was sold according to the acreage?

A. The water was sold according to the acreage, and the acreage rates are used, but since we were allowed a certain amount of water, namely, 760 second feet of water, we had to find what the excess of water was in order to determine the acreage which was irrigated by this excess of water.

X Q. 79. Now have you the acreage rates for the year ending June 30, 1907, the number of acres of Miller & Lux?

A. Ending at what time?

X Q. 80. Up to June 30, 1907, Miller & Lux paid for their waters by acreage, as I understand it?

A. Yes sir; also up to June 30, 1908.

X Q. 81. By acres?

A. By acres.

X Q. 82. What portion of the land did they pay for by acres?

869 A. That is all paid for by acres.

X Q. 83. That is contained in Exhibit 27?

A. It is.

X Q. 84. After that what is known as the measurement rate, that is, the water was measured by a sort of water gate, turned in for a certain length of time, and a charge was made for it, no matter how many acres were actually irrigated by the customer? Is that so?

A. Yes, the new rate was started July 1, 1908. Previous to that fiscal year, 1907-8, the water measurement was taken and the acreage irrigated, and a charge was made on the acreage rate and the measurement rate was used to determine the duty of the water; that is, how much water it took, how many second feet of water for 24 hours it took to irrigate one acre.

(By the MASTER:)

X Q. 85. That method was adopted as to all consumers during that time?

A. Yes.

(By Mr. LANGHORNE:)

X Q. 86. Did you measure the water, or is there included, rather, in this Exhibit 26, the lands of Miller & Lux irrigated from what is known as the Columbia canal on the east side?

A. No.

X Q. 87. Do you know whether or not they paid for such water as the canal company lets them have on the east side, by the acre or by measurement rate?

A. I don't know of any case where they have got water on the east side during times when they did not have the right to it outside; that is, when there was not more than 760 second feet flowing in the river.

X Q. 88. But you don't know of their having used any of the canal company's water over on the east side?

A. No.

X Q. 89. You make mention in this report of yours, Exhibit 26, for the year ending June 30, 1908, amounting to 57,904.19 second feet miles?

A. What is the question?

X Q. 90. I say, referring to this first report of yours, this first report of October 9, on page 3, I see this item: "Water carried for Miller & Lux, 57,904.19 second feet miles." I suppose those were the excess waters?

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A. That is the excess water used by Miller & Lux on their non-riparian lands.

X Q. 91. On their non-riparian lands?

A. Yes; but you will note in looking at the next letter, what the number is. That is wrong.

X Q. 92. Mr. Hammett, I observe from that portion of your report, Complainant's Exhibit 27, namely, your communication of October 9, that on page 3, you give as the water carried for Miller & Lux 57,904.19 second feet miles, amounting to $289.52; and I will ask you if that is for what you call in your report the excess waters belonging to Miller & Lux, and for the carrying of which by the canal they pay the canal company a certain price?

A. Yes.

X Q. 93. Now then, I understand that you made some correction of those figures in your communication of October 30, 1908, is that so?

A. It is.

X Q. 94. Will you please indicate upon your corrected communication where the items as to that matter are.

A. On page 1, "Los Banos farm, 91,159.25 second foot miles, $455.60; page 2, Colony farm, 6,143.76 second foot miles, $30.72; Dos Palos farm, 55,634.77 second foot miles, $278.17; Poso farm, 12,136.42 second foot miles, $60.68; making a total of $825.17.

(By Mr. TREADWELL:)

Q. Total carrying charge?

A. Total carrying charge.

(By Mr. LANGHORNE:)

X Q. 95. You have attached to this Exhibit 27 a page purporting to give the figures of the proportionate maintenance at the headworks borne by Miller & Lux for the year 1907-8. How did you arrive at those figures, Mr. Hammett? I see you take as a basis

here the number of acres irrigated by Miller & Lux and the number of acres irrigated by other consumers. Is that what you mean?

A. Yes. In taking the duty of water on Miller & Lux's
871 lands and the duty of water on the lands of other consumers, we find a slight difference in the duty, and consequently I computed the number of second feet used by the canal company, using the different data for Miller & Lux's water and for the consumers' water, thus computing the total number of second feet used for irrigation by the canal company.

X Q. 96. The abbreviation n. r. in your report means "Non-riparian," does it not?

A. It does.

X Q. 97. Were any riparian lands of Miller & Lux irrigated by these so-called excess waters?

A. Yes, and those were paid for at the regular rates.

X Q. 98. The items in your revised report of October 30, 1908, do they cover the entire irrigation for the year ending June 30, 1908, irrespective of your prior report of October 9, 1908?

A. Yes, they cover the whole irrigation, but do not go into details as to the matter of figuring.

X Q. 99. Now your report of October 30, 1908, gives the total number of acres of land in Fresno and Merced counties irrigated with the 760 second feet? You mean non-riparian land, do you not?

A. Riparian and non-riparian.

X Q. 100. Well, I thought that under the decision of the court no riparian land was irrigated with that 760 feet; but you do not at that particular point in your report, namely, on the first page of that report of October 30, 1908, give the amount in Stanislaus county that is irrigated by that 760 feet.

A. That is because there was no division of the land in Stanislaus county. All of the land in Stanislaus county, all of Miller & Lux's land in Stanislaus county was irrigated from the 760 feet.

X Q. 101. I understand that this item as to the 760 feet that that referred to was limited to Miller & Lux's land. Is it?

A. It is.

X Q. 102. It does not say so.

872 A. Yes, that is the Miller & Lux land irrigated from the 760 feet.

X Q. 103. Oh, the Miller & Lux land?

A. Yes, riparian and non-riparian, irrigated from the 760 feet. All those reports deal only with the Miller & Lux land.

X Q. 104. Oh, deal only with the Miller & Lux land?

A. Yes.

X Q. 105. Well, then, I will ask you what kind of lands other than those of Miller & Lux are irrigated in Fresno county—that is, non-riparian lands—with this 760 feet?

A. In Fresno county, 1,175.7 acres.

X Q. 106. This is non-riparian, is it?

A. This is non-riparian; presumably non-riparian. We didn't go into the riparian rights of other people.

X Q. 107. That is the year ending June, 1908?

A. Yes.

X Q. 108. And those are non-riparian lands in Fresno county, and not belonging to Miller & Lux or to this Las Animas & San Joaquin Land Co.?

A. Not belonging to them.

X Q. 109. How many acres of riparian lands were irrigated from those 760 second feet in Fresno county not belonging to Miller & Lux or to the Las Animas & San Joaquin Land Co.?

A. None.

X Q. 110. Now as to Merced county; how much for that year of non-riparian lands were irrigated from this 760 second feet—that is, lands not belonging to Miller & Lux and to the Las Animas & San Joaquin Land Co.?

A. 21,599.4 acres.

X Q. 111. And how much of riparian lands in Merced county were so irrigated from said 760 second feet, and not belonging to Miller & Lus and the Las Animas & San Joaquin Land Co.?

A. None.

X Q. 112. In the county of Stanislaus, how much of non-riparian lands were irrigated from the 760 second feet of that year that did not belong to Miller & Lus?

A. 11,275.6 acres.

X Q. 113. And as to the riparian lands belonging to
873 parties who were not Miller & Lux or the Las Animas & San Joaquin Land Co.?

A. I am not sure about that. I did not look into the riparian rights of outside parties in regard to that. These we treated as non-riparian owners.

X Q. 114. You considered all of them as non-riparian owners?

A. Yes, we only considered the riparian rights of Miller & Lux and the Las Animas.

X Q. 115. Now then, what are the number of acres that were irrigated in Fresno county by waters sold by the canal company to persons other than Miller & Lux and the Las Animas & San Joaquin Land Company?

A. This is just a repetition of the previous numbers. You asked that same question before, what non-riparian land——

X Q. 116. I mean outside of the 760 cubic feet.

A. Oh, outside of the 760 cubic feet? None. All of the outside consumers were irrigated from the 760 feet.

X Q. 117. Is that true also of the other two counties?

A. It is.

X Q. 118. So that the canal company during the year you have mentioned, did not sell any water to any consumer in any of those three counties outside of Miller & Lux out of any waters owned in excess of the 760 cubic feet?

A. It did not. No.

X Q. 119. Is that true also, Mr. Hammett, for the year ending June 30, 1907?

A. I don't know. I didn't go into the computation in 1907; but

I believe that is true; that the consumers have always been supplied from the 760 feet.

(By Mr. TREADWELL:)

Q. Consumers other than Miller & Lux?
A. Consumers other than Miller & Lux.

(By Mr. LANGHORNE:)

X Q. 120. This Exhibit 27 which contains your two reports of October 9 and October 30, 1908, is confined then exclusively to waters sold to and carried for Miller & Lux by the canal company?
A. It is.

X Q. 121. But it does not contain, I understand, any reference or computation or amount after that for any waters which may have been sold by the canal company to Miller & Lux for use in the Columbia canal or from the Columbia canal on the east side of the San Joaquin river?

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A. It includes nothing on the east side; only water what comes from the main canal or its branches or from the other canals which you have mentioned which leave on the west side above the dam.
X Q. 122. It includes the water, however, from the outside canal, does it not?
A. Yes, we considered that as a branch of the main canal.
X Q. 123. And the Dos Palos system?
A. Yes, that is also a branch of the main canal.
X Q. 124. In regard to that canal you were asked about going down the side of the river that heads just above the main weir on the canal, and I understood you to say that during the year ending June 30, 1907, there had been a flood.
A. In June 1906 there was a big flood on the river which flooded the whole Helm ranch, that is the part of it included between the canal and the river, and down to Firebaugh, and it destroyed all the crops on it at that time and put it in such shape that it had to be reclaimed.
X Q. 125. And I believe you say that whatever irrigation was used from that canal by Miller & Lux is paid for by the company?
A. Yes.
X Q. 126. And is included in these reports which you have made for the year — June 30, 1907?
A. Yes it is.
X Q. 127. Is all the water carried by that canal used for irrigating the cultivated lands of Miller & Lux?
A. All is used for cultivated lands, yes.
X Q. 128. None of it is used for pasture lands?
A. No.
X Q. 129. Is there any head gate or measuring gate at the head of that canal?
A. There is a head gate, but no measurements are taken from it.

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X Q. 130. Now then, that canal which you have just been talking about and which has just been spoken of here as the

river canal, does not connect in any way, does it, either with the Helm canal or with the main canal of complainant?

A. I am not sure about that point. There is a gate only a few hundred feet below the head of the Helm canal, but I could not say from memory whether that connects with this river canal or not.

X Q. 131. Any water flowing into this river canal would not run down either the main canal, would it, or the Helm canal, but it would keep on its course in the river canal, down the river canal course, would it not?

A. Yes, it would keep down the river canal. It would not return to the main canal.

X Q. 132. What is the capacity of that river canal?

A. I am not sure about that either. Probably about 50 or 60 second feet.

X Q. 133. Then in making these different calculations you did not take that into consideration, did you?

A. No. At that time, at the time the excess water was being used, that canal was not being used.

X Q. 134. Well, if you didn't know its capacity you have not included it in any of these estimates here, have you, based on that capacity?

A. There are no estimates based on capacity.

X Q. 135. Well there are estimates based on acres, are there not?

A. Yes, acres, yes.

X Q. 136. How many acres are irrigated from this river canal?

A. I don't know what part of it is irrigated from the river canal. I have the total number of acres irrigated on the Helm ranch, but part of it is irrigated from the river canal and part of it from the other side. The thing is that there is a trough there. The ground is a little higher on the river side than it is in the center, and a little higher on the canal side. There is low ground in the
876 middle, which makes the ditch on the river side necessary in order to cross that trough.

X Q. 137. By the way, while we are talking of these capacities, what is the capacity of complainant's main canal? I suppose taking that point of measurement that you have mentioned by the first point of measurement, that would be below the intake from the river, and also from this Fresno Slough, wouldn't it?

A. Yes.

X Q. 138. What is its capacity at that point?

A. About 1300 second feet.

X Q. 139. And then below that point the outside canal heads, does it not?

A. Yes.

X Q. 140. And what is the capacity of the outside canal?

A. Between 400 and 500 second feet.

X Q. 141. And what is the capacity of the main canal from its point of intersection with the outside canal?

A. Between 800 and 1000 second feet.

X Q. 142. And what is the capacity of this canal called the Poso canal or ditch?

A. 250 second feet.

X Q. 143. And the capacity of the Dos Palos canal?

A. 250 to 300 second feet.

X Q. 144. When was the Helm canal constructed?

A. I don't know the exact time. Recently. It was within the last few years.

X Q. 145. Between 1904 and 1905, I think.

A. I don't know the exact date. It was before my time.

X Q. 146. It has a head gate has it not?

A. It has a head gate, yes.

X Q. 147. What is its capacity there at the head gate?

A. About 500 second feet.

X Q. 148. Well, is it not capable of carrying a great deal more water than that down to the point where it has been dammed up so as to turn its waters into the main canal of com-
877 plainant?

A. No.

X Q. 149. A portion of that Helm canal has been excavated below the point where waters are now diverted from it into the main canal of complainant, has it not?

A. It was completed to connect with the Poso canal. In fact it was supposed to be at one time the head of the Poso canal.

X Q. 150. And how far is it from the head gate of the Helm canal to where it connects with the main canal of complainant?

A. 3.2 miles.

X Q. 151. How far is it from that point of connection to the head of the Poso canal?

A. 3.2 miles.

X Q. 152. And from that point of connection to the Dos Palos canal?

A. About 6.5 miles.

X Q. 153. Now what we have called excess waters here, that is the waters that are carried by the complainant's canals for Miller & Lux, for which Miller & Lux make a payment for carrying, at what points on the complainant's canal are those waters delivered to Miller & Lux?

A. The most of them are delivered at the Poso canal.

X Q. 154. About how much of them?

A. The amounts are given in that report as I gave it.

X Q. 155. You say the most of them are delivered there?

A. The most of them are delivered there.

X Q. 156. And is any quantity carried beyond that point?

A. A good deal is carried for delivery at Corn camp.

X Q. 157. How far is Corn camp from the head of the canal?

A. That is delivered through the end of Branch 2 on the Colony canal.

X Q. 158. You mean the Dos Palos canal?

A. Yes.

X Q. 159. That water is carried by the canals of complainant from where the Helm canal makes its connection on down to the Dos Palos canal, and down the Dos Palos canal through Branch 2?

A. Yes.

878 X Q. 160. Up to a point in Merced county, up to a point about two miles northwest of the town of Dos Palos?

A. Yes.

X Q. 161. In making a computation did you measure all that distance?

A. I used all of the distance, yes.

X Q. 162. And you measured the amount of water flowing that distance?

A. Yes, I took the acreage which was irrigated from excess water at that point and computed at headquarters the amount of water that it took to irrigate those acres.

X Q. 163. Is that the system that you pursued in all cases in arriving at your figures?

A. Yes.

X Q. 164. In your report, Exhibit 27, have you stated the amount of acres that Miller & Lux irrigated by these so-called excess waters that were carried for them by the canal company?

A. Yes.

X Q. 165. I will ask you if you have in that report stated all of the acres that were so irrigated by those excess waters.

A. I have.

X Q. 166. During what portion or portions of the year ending June 30, 1908, were those excess waters carried for Miller & Lux by complainant?

A. I have forgotten the exact dates, but it was from July 1, 1907, to about September 3, I think, 1907; then from March 26, or thereabouts, 1908, until June 30, 1908.

X Q. 167. Now as I understand it, the main dam of the complainant is so arranged as to let the waters of the river either flow through or be stopped by the dam, is it not?

A. It is.

X Q. 168. That is an arrangement of gates or boards or something like that?

A. Flash boards.

X Q. 169. And the head gates, the different head gates at the head of complainant's system and of the Helm canal, are also arranged so as to let in and let out water as desired?

A. Yes.

879 X Q. 170. So that it is possible, is it not, when you want to carry water through the complainant's canal that belongs to Miller & Lux, and for which the complainant makes a charge for carrying, as distinct from other waters, that you can carry practically all of Miller & Lux's water for any given length of time, can you not, and deliver it as you wish?

A. Yes.

X Q. 171. In other words, you could carry it to the full capacity of the Helm canal, could you not?

A. Yes.

X Q. 172. And what is that capacity? You stated a while ago?

A. About 500 feet.

X Q. 173. And how was it in practice when these measurements were made during the year ending June 30, 1908, and when you carried the water for Miller & Lux, as stated, how many cubic feet were carried at a time?

A. The 760 feet only were carried in the main canal of the San Joaquin Canal Co. The balance, about 500 feet, was carried through the Helm canal, but the canal company charged just the same for the portion of that water which was used on riparian lands. The reason for not charging it from time to time was that it could not be determined at the time what was going on the riparian land and what was going on the non-riparian land, and consequently it was just agreed by Miller & Lux that they could carry the whole of it in their canal down to the junction point, and that the charge would be made later, when the amount of riparian and non-riparian lands were known.

X Q. 174. In other words, then, at the time you have mentioned, in July and August, the time of that year that all of this Miller & Lux water was carried and used by them and divided by them on their lands just as they wished for irrigation?

A. Yes.

X Q. 176. In other words, there was no account taken of it as being carried for a week at one time and 20 days at another time?

A. No, it was impossible to decide just how much water at one time is wanted for riparian and how much is wanted for
880 non-riparian lands. It was impossible to estimate the proportion, and consequently an equitable division has to be made.

X Q. 177. Then in August and in September—I mean the dry season—that is when the water is most needed by the farmers and by Miller & Lux and other parties, is it not?

A. When is the irrigation season, do you mean?

X Q. 178. Yes, when is it most needed?

A. I think there is the greatest call for water from about the first of May up to the first of September, say.

X Q. 179. And when is the water lowest in the river and the Fresno Slough?

A. In December; November and December.

X Q. 180. It is pretty low also is it not in September and October?

A. It begins to get lower. The flood ceases in various years from the last of June to the first of September. The flood may keep going down, but depending on how great a flood year it has been. But it generally keeps decreasing until the amount of rains are sufficient to stop the decrease and to start an increase again, and that generally does not come until December, anyway.

X Q. 181. Have you got the different readings of the river and of the Fresno Slough, that is, the feeders of these canals, for the various years?

A. I have the San Joaquin. We have no measurements on the Fresno Slough. There are very few times, in fact, of late years, since the Kings river system was thoroughly completed, it takes a very big flood to bring any water down Fresno Slough at all.

X Q. 182. Well, there are times, are there not, in a year when

there is not enough water running in the river or Fresno Slough to supply Miller & Lux and all the customers of the canal company, the other customers?

A. Yes.

X Q. 183. What time of the year is that?

A. That would be in the late fall and in the early spring.

X Q. 184. You mean in October?

A. Not in October, but in February and March.

881 Mr. TREADWELL: What do you mean? Not enough to supply the customers?

Mr. LANGHORNE: All the customers.

Mr. TREADWELL: To supply them all at one time?

Mr. LANGHORNE: I mean at the same time.

A. You mean that there are times when there would be a greater call for water than there would be water to supply the call?

X Q. 185. Yes. This Exhibit 27 seems to refer to the irrigation of Miller & Lux, but does that include this company which we understand belongs to Mr. Henry Miller, that is, the Las Animas & San Joaquin Land Co.?

A. It does refer to their lands, yes.

X Q. 186. And it includes all lands in which any of the concern of Miller & Lux have any interest, so far as you know, I suppose?

A. Yes.

(Further hearing adjourned to Monday, November 9, 1908, at 10 a. m.)

882 MONDAY, *November* 9, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of W. C. HAMMETT resumed.

By Mr. LANGHORNE:

X Q. 187. Mr. Hammett, since the last session I have gone over with you your report as to the amount of water wasted out of the several wastes of complainant's canal for the week commencing July 1, 1908, and which measurements I understand you took in connection with your investigation as to the loss of water by seepage and evaporation; and I will ask you if you have those measurements all tabulated?

A. I have them not all tabulated but I have them in a form so that I can pick them out immediately.

X Q. 188. Now I will read from what I took down. It will save time; and you will follow me and correct me if I make a mistake. I will ask you a question at the end, if that is correct. In regard to the Firebaugh waste, which is the one nearest the head of the canal, I understand for that week commencing July 1, 1908, that

it was shut off, and that the leakage was estimated at 2 cubic feet per second. Is that correct?

A. That is correct.

X Q. 189. The next waste would be at Camp 13? Is that right?

A. Camp 13.

X Q. 190. And I ask you if the following are correct readings of the wastes as to Camp 13 for the week commencing July 1, 1908: July 1, 51.80?

A. Correct.

X Q. 191. July 2, 55.54?

A. No that is not correct.

883 X Q. 192. What is correct then?

A. 51.80.

X Q. 193. That is July 1?

A. That is July 2 also.

X Q. 194. Well, July 2, 51.80?

A. Check.

X Q. 195. July 3, 55.54?

A. Check.

X Q. 196. July 4, 67.26?

A. Check.

X Q. 197. July 5, 67.20?

A. Check.

X Q. 198. July 6, 63.27?

A. Check.

X Q. 199. July 7, 71.34?

A. Check.

X Q. 200. The next waste is the Los Banos waste, is it not?

A. The next is Los Banos, yes.

X Q. 201. And commencing with the week July 1, 1908, I will ask you if the following is correct: July 1, nothing?

A. Check.

X Q. 202. July 2, two readings, 6.27 and 40.75?

A. Check.

X Q. 203. July 3, two measurements, 19.94 and 45 feet?

A. Check.

X Q. 204. July 4, 19.74 and 41.30?

A. Check.

X Q. 205. July 5, 21.43 and 79.50?

A. Check.

X Q. 206. July 6, 39.81 and 72.60?

A. Check.

X Q. 207. July 7, 36.36?

A. Yes.

X Q. 208. And 48.25?

A. Check.

X Q. 209. I will ask you, Mr. Hammett, where you have two measurements on the same day in order to get the true measurement for the entire 24 hours, do you take the mean of those two measurements or do you add them together?

A. I add them together.

X Q. 210. Why is that?

A. Because each one is reduced to an equivalent and the water which would flow during those 24 hours to make the actual amount, would fall between the times of measurements.

X Q. 211. So that at the time of the measurement the reduction was made at that time, the proper reduction?

A. Yes.

X Q. 212. The next waste is the Las Garzas waste, is it not?

A. The next is Las Garzas, yes.

X Q. 213. I will ask you if the following are your measurements for the week commencing July 1, 1908: July 1, .8 cubic feet?

A. Correct.

X Q. 214. July 2, .81 cubic feet?

A. Check.

X Q. 215. July 3, .80 cubic feet?

A. Check.

X Q. 216. July 4, .81 cubic feet?

A. Check.

X Q. 217. July 5, .80 cubic feet?

A. Check.

X Q. 218. July 6, .81 cubic feet?

A. Check.

X Q. 219. July 7, .80 cubic feet?

A. Check.

X Q. 220. Now the next waste here is the Orestimba waste, is it not?

A. It is.

X Q. 221. I ask you if the following measurements for the week commencing July 1, 1908, are correct, namely, July 1, two readings, 6.12 cubic feet?

A. Check.

X Q. 222. And 2.94 cubic feet?

A. Check.

X Q. 223. July 2, 7.63 cubic feet?

A. Check.

X Q. 224. And 62.60 cubic feet?

A. Check.

X Q. 225. July 3, 79 cubic feet?

A. Check.

X Q. 226. July 4, 79 cubic feet?

A. Check.

X Q. 227. July 5, 39.50?

A. Check.

X Q. 228. And 66.25?

A. Check. And there was another one also on that date.

X Q. 229. What was that?

A. 44.60.

X Q. 230. Cubic feet?

A. Cubic feet per second.

X Q. 231. July 6, 27.58?

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A. Check.
X Q. 232. And 107.20?
A. Check.
X Q. 233. July 7, 76.44 cubic feet?
A. Check.
X Q. 234. And 10.11?
A. Check.
X Q. 235. And 21.38?
A. Check.
X Q. 236. And 6.11?
A. Check.
X Q. 237. There were no other wastes than those mentioned, were there, measured by you in that first week in July, 1908?
A. No others.
X Q. 238. Now then, you took similar measurements, I understand, for the week commencing August 15, 1908. Is
885 that so?
A. There were similar measurements taken every week, in fact every day, from July 1 to August 31, inclusive.
X Q. 239. To August 31?
A. July 1 to August 31 inclusive. What was the week that you wanted?
X Q. 240. Suppose we take the last week in August; that is commencing August 22.
A. August 22 to August 31?
X Q. 241. Yes. And what were your measurements of such waste, that Firebaugh waste for the week commencing August 22, 1908?
A. No leakage.
X Q. 242. Was there any waste at all?
A. No waste at all.
X Q. 243. The week before you estimate the leakage there at 2 cubic feet.
A. No, only for the first 17 days in July. Then on the 17th of July that was stopped up so there was no leakage at all.
X Q. 24-. The next then will be Camp 13?
A. Camp 13, yes.
X Q. 245. The next waste will be Camp 13?
A. No waste at all during that week.
X Q. 246. The next is Los Banos.

Mr. TREADWELL: Now your Honor, I have not objected to counsel going into this, and I don't know as I legally could. But where counsel is simply obviously not attempting in any way to impeach the general trend of the testimony of the witness, but is evidently entirely satisfied with it, and is simply conducting this examination apparently for information, I think we are entitled to ask counsel what his object is in getting this waste. If he has any legitimate object in showing the amount of this waste through these gates, relative to this case, I am perfectly willing that it should come in. But I am not willing, and I protest now against allowing the ene-

mies of this company, the people who have sworn to destroy this company, and who are through a series of suits both in the courts of this state and in the courts of the United States, attempting
886 to destroy the rights of this company, to destroy the rights of these consumers, and who are in this court room getting information from the attorney who is defending this case, for the purpose of carrying on that warfare. I say that I object to information that is detrimental to this company and to the consumers themselves, being turned over to those people. I don't know what the rule of this court is. I don't know whether when your Honor sits as a master, your Honor has the power to exclude from this court room people who are simply coming in here, detrimental and adverse to the interests of both complainant and defendants, from a legal standpoint in this case. I don't know whether your Honor could refuse to permit people to come in here and get from the stenographer's notes information which can be used detrimental to both parties, from a legal standpoint in this case. And I say that if counsel has gone to work in this case, as I state to your Honor that he has, and has employed in this case the people who are under contract with the people who are fighting this company in this particular litigation affecting these water rights, that he has no right to turn over to them the information which is obtained in this case. Of course if it goes on record here it will be open to inspection and we will have to submit to it. But I submit that it is not proper for the evidence that comes in here to be taken down by the enemies of this company; and I submit that counsel should state some legitimate reason why this evidence is being brought out, and whether it is simply brought out for the purpose of being turned over to the parties that I refer to.

Mr. LANGHORNE: This is rather extraordinary. As counsel says, the gentleman here present with me, Mr. Henderson, a civil engineer, has been employed by my clients in the first place, to take me over the ditch which he was perfectly familiar with and which I knew nothing about at all, and he probably may be further
887 employed in the matter to do certain other work. Very likely he will be. We have a perfect right to employ him. At the same time it is true, or it may be true, as counsel says that other people may have employed Mr. Henderson. I understand he is employed by parties known as the Eastside Canal Co. and the Stevinson people. Your Honor will remember the case that has been spoken of, the Stevinson case, in regard to the canal on the east side of the river. I believe Mr. Henderson has been employed by that company, or by those companies during this litigation. But so far as I have been able to find out anything about those cases, so far as the canal company, that is, the complainant in this case, is concerned, why, it seems to me that the rights of the Stevinson people have been settled by their judgment; and I can't see—and I ask counsel, and I have asked him several times—in what way—he has objected here several times to matters being brought out or maps being put in, and so on, for fear these other people with whom they

have litigation would get some information. And I have not been able to find out from counsel what it is, what that particular thing is that they do not wish these other people to find out. Now as I have said here, and I repeat again, the people whom I represent, the water rate payers, of course do not want to take any action which would in any way injure the complainant in this case in so far as the complainant's water rights are concerned. That is, it would be better for my clients, for the complainant in this case to have as much water as possible. But I cannot see how the questions that I have been asking and which I will continue to ask, which are certainly relevant to the issues in this case, can elicit testimony which would be detrimental to the interests of the complainant in that other litigation. But of course that is a matter that I do not have anything to do with, how this could injure them. But the fact
888 is that any testimony which is necessary for us to produce in our defense, we could not be prevented from producing because of any injury that it might do to the plaintiff in another case. As to whether this gentleman, who is an engineer for both parties, has a right to examine those things or not, is not a matter that can be objected to by counsel for complainant. They are public records and in a public court. Now so far as this particular point is concerned, that is, evidence in regard to the waste, that certainly has no bearing, so far as I can see, upon the Stevinson case, but it is directly relevant here. They themselves have introduced in evidence this Exhibit 26 by which they seek to overcome the depreciation of the canal, and they have introduced this gentleman here, Mr. Hammett, who has made some very large figures based upon, as I understand it, his estimate of what he calls appreciation, because he says there is also less waste on account of this appreciation. And my questions are directed solely to that issue. What I have been bringing out is nothing more than a copy of this Exhibit E here——

Mr. TREADWELL: Is it not a fact that you have exhibited to Mr. Henderson, Mr. Hammett's estimate, Exhibit 27, in regard to Miller & Lux's irrigation?

Mr. LANGHORNE: Yes sir. We went over it very carefully.

Mr. TREADWELL: Now counsel stated that he could not see—and I will take it for granted that he made that statement in good faith—that he could not see how we were affected in this matter. Now the legal condition of the Stevinson people and the East Side people, the East Side Company, is simply this: They brought suit against the canal company. On its face as originally brought they objected to them taking any water and finally it went down to a claim that they were not entitled to take anything more than something in the neighborhood of 400 feet of water, which your Honor can
889 clearly see would practically be destructive of the canal company's rights. That case was tried for many weeks and all these questions which counsel is hinting at now as an undue waste of water were pivotal questions in the case. This question about the irrigation of land was a pivotal question in that case. All those matters were litigated in favor of complainant in that case. That

case has been appealed and is set down to be argued on appeal. The Stevinson people appealed it, seeking to reverse that judgment and seeking to limit us to about 400 feet in this canal, which question is still in litigation. That matter is still in litigation, not only as to riparian lands but as to the amount of water that we are entitled to. Both parties have since brought suits for the purpose of determining that question as to the relative amount of water we are entitled to and as to the question of the riparian lands. And they have been threatening ever since that action was brought to bring contempt proceedings against us to determine whether we have been taking more water out of the river than we are entitled to take. In order to protect ourselves we entered into this contract, Exhibit E. That contract, Exhibit E will be one of our main defenses in this matter, if we are cited for contempt. Now counsel desires to go into this matter and deliver to our adversary our advantages under that contract. Counsel says that he does not want to do anything that will injure this company in that litigation. I believe counsel is right when he says that, but at the same time I believe that his clients are willing to do anything, if it will ultimately help them in this case, to defeat this company in its contest with the Stevinson people. They propose to show that this company voluntarily turned out its surplus water, when there is no demand for water into the waste gates, and they propose to thus contradict the testimony of this witness to the effect that a new
890 canal would lose more water by actual seepage and percolation than an old canal would. I say that such a statement is such an absolute and transparent fiction that counsel should be ashamed to utter it. I state on the contrary that this testimony is brought out for absolutely no purpose except for the purpose of giving our enemies this information, information which will enable them to proceed against us. If the rules of law permit that, we will have to stand it. But I contend that this is nothing less than an actual crime for these people to come in here and threaten this company in this manner. I tried to warn counsel before in regard to this situation and tried to show him to what he was leading. I hoped that no testimony would be taken for the purpose of being used against us in our other litigation. And I state now that this information is being obtained for the purpose of enabling those people to back-fire in their warfare with us; and I simply want your Honor to know what the condition is.

The MASTER: I have no control to sequester anyone from the court room, except a witness. At the request of counsel I am authorized to sequester witnesses in the case. But so far as any other person wishes to be in attendance in the court room, and is subject to no criticism because of his demeanor, he is entitled to remain under the rule. And under the rule which I adopted early in the case, and which seems to be practically the rule to be followed in such cases, if there is any question before the Master, if it is not clearly impertinent and incompetent, it is the duty of the Master to permit it to be asked and answered, subject to any objection of counsel, in order that the court may fully and finally pass upon it. I feel

compelled to overrule the objection of counsel for complainant if his argument is to be considered as an objection.

Mr. TREADWELL: I would like to have it so considered.

891 (X Q. 246 read).

By Mr. LANGHORNE:

X Q. 247. The next is Los Banos, Mr. Hammett, for the week commencing August 22, 1908.

A. No waste.

X Q. 248. And the next is Las Garzas for the week commencing August 22, 1908.

A. No waste.

X Q. 249. At Orestimba, the waste for the week commencing August 22, 1908.

A. On the 22nd, 3.80; on the 23rd, 2.52; on the 24th, 2.52; on the 25th, 1.78; on the 26th, 1.19; on the 30th, 2.16.

X Q. 250. Did you skip from the 27th?

A. Yes sir; there was none on the 27th; the 27th none, the 28th none, the 29th none.

X Q. 251. That completes the week then?

A. Well I have given up to the 31st in the other answers; the 30th, 2.16, the 31st, 1.73.

(By Mr. TREADWELL:)

Q. Your testimony as to the Firebaugh, Camp 13 and Los Garzas wastes covers the period from August 22 to August 31?

A. Yes.

(By Mr. LANGHORNE:)

X Q. 252. In regard to Exhibit 26, Mr. Hammett, on the first page you have a column headed "Appreciation of earthwork." Take for instance the first item of that appreciation account, namely, "Main Canal, $18,700." Will you please state how you arrived at those figures of appreciation.

A. I arrived at the total appreciation of the canal system according to the method which I stated at the last session. And these separate ones for the different canals shown in the third column on the first page mentioned are the proportional amounts according to the amount of earthwork in each canal system.

X Q. 253. Will you please state how you arrived at the appreciation of the total earthwork of the canal.

A. I think I already gave that in detail at the other session, but I will go over it again.

892 X Q. 254. I mean the principle upon which you proceeded?

A. I considered that a new canal of the exact nature and size and dimensions of the canal system which we are speaking of would, during its first year, lose several times the amount of water which the canal would after it had been in use a number of years; in fact, that it is now losing; and I took an arbitrary amount for the amount which it would lose, which I am positive, myself, and which I think

that any engineer or layman who is familiar with new canals will see is less than the absolute amount which would be lost by a new canal of the same kind.

X Q. 255. What was that amount, that basic figure of loss by a new canal, that you took?

A. I considered that it would lose the first year three times the amount that a properly silted canal would lose, and that this amount would gradually approach the regular amount of seepage and evaporation which an old canal would have arriving at that amount in, say, eight years; and that the total amount of loss due to a new canal could be represented as six times the amount which our present canal loses in one year; that that would be considered as the total amount which would be lost in those eight years in which the loss was going from three times the present amount, until it was arriving at the present amount.

X Q. 256. Then you took that loss and capitalized it?

A. Then I took that loss and capitalized it; that is to say, I considered that each and every second foot of that water would irrigate a certain amount of land, and that since we had a demand for all our water that the loss of that water was actually a loss of money, and that this money—that every second foot of that had a value equal to what we got for every second foot of that delivery during the year 1907-8, and that that amount was $1.05 per second foot.

(By Mr. TREADWELL:)

Q. On the average?

A. On the average.

893 (By Mr. LANGHORNE:)

X Q. 257. Now then, before your employment by the complainant, did you ever have anything to do with a canal for an irrigation system?

A. I did not. I mean that I never was in the employment—I never had any work on an irrigation canal.

X Q. 258. You never had occasion before that to estimate the loss of water by seepage or evaporation in an irrigation canal under conditions exhibiting the same climate and the same or similar soil to that obtaining in complainant's canal, had you?

A. I had not.

X Q. 259. And this work of measuring and investigating the loss by seepage and evaporation was entirely new to you, was it not?

A. Well, it was new to me? What do you mean? That I had not actually handled the instruments for doing it?

X Q. 260. Well, you had never had experience in making those measurements before, had you?

A. I had never had experience in making those measurements before.

X Q. 261. Now then, according to your theory of appreciation you have allowed a certain amount on that although nothing had been expended by the canal company on that account? Is that so?

A. Nothing has been expended on it.

X Q. 262. In other words, if one of the wooden bridges across

the canal, long since its construction, had become petrified and had become a stone bridge, you think you also would be justified on the theory that you have advanced, do you not, of now valuing that bridge more as a stone bridge than as a wooden bridge? Is that it?

A. If anything so absurd had happened as a wooden bridge becoming a stone bridge, I certainly think it would have a greater value than it had when constructed as a wooden bridge.

X Q. 263. Although the canal company had made no investment at all on that bridge as a stone bridge?

A. That is the theory.

894 Mr. TREADWELL: Do you deny the correctness of that theory, Mr. Langhorne?

Mr. LANGHORNE: I do. I would say it was absurd.

X Q. 264. Now I understand, Mr. Hammett that certain of these waters of the complainant are wasted at say Camp 13, where there is a waste gate arranged as you described in your testimony the other day. What becomes of those waste waters?

A. They go into what is known as the Camp 13 swamp. From there they go into a series of sloughs and into what is known as swamp land, and gradually find their way into the river. The parts that are not used in raising wild grasses on the way to the river, find their way by seepage or through other small sloughs, into the river.

X Q. 265. This land over which this so-called waste water flows, is it not leveed and checked up for the purpose of utilizing it in spreading it over the lands of Miller & Lux?

A. It is.

X Q. 266. And is not that leveeing and checking up and spreading of the water done for the purpose of raising feed for the cattle of Miller & Lux, and also in some places, of sucking out the alkali from the soil?

A. It is.

X Q. 267. And a great many of the cattle of Miller & Lux actually do graze upon land treated that way, do they not?

A. Yes.

X Q. 268. And in other cases is it not a fact that land so treated with those so-called waste waters have been partially or entirely reclaimed from alkali and made valuable for farming land?

A. It is.

X Q. 269. I would ask you about how many acres of Miller & Lux's land and of the Las Animas & San Joaquin Land Co.'s uncultivated lands—Miller & Lux's uncultivated lands also—are so watered by the so-called waste waters from Camp 13, Los Banos, Las Carzas and Firebaugh wastes?

895 Mr. TREADWELL: I would like to ask you, Mr. Langhorne: As I understand it, you have gone over with the witness certain data for the purpose of arriving at an approximation on that subject.

Mr. LANGHORNE: I have the figures here.

Mr. TREADWELL: I would ask you whether or not you are satis-

fied with the approximation shown by the result of your talk with him?

Mr. LANGHORNE: No, I think probably as to those particular wastes that may be all; but I understand there is a good deal more water sold by the canal company to Miller & Lux and to the Las Animas company that goes through the Poso ditch, especially; that is delivered into the Poso ditch and that is practically used over grass lands and other lands, and that I think is not paid for.

The MASTER: The questions relate, I understand, to conversation between counsel and witness outside of court?

Mr. TREADWELL: Yes. Now, Mr. Langhorne, outside of the matter of the Poso ditch from which you claim there are certain wild grasses irrigated, are you satisfied with these amounts of wastes through the waste gates that have been mentioned by the witness?

Mr. LANGHORNE: I have no other means at the present time of checking it up, because we have not been able to make any survey so far. I would not want to be bound by what the witness says, if that is what you mean.

Mr. TREADWELL: We would prefer, your Honor, to take the position in the case, that this matter as to the number of acres that is swamped with this waste water is not a material factor in the case, while it might become a very material factor in other litigation, and no doubt it will; and we would be perfectly willing, as at present advised, to admit for the purpose of this case, but not for any other purpose, that the amount of waste through those ditches, or
896 the number of acres that are flooded by waste through those ditches that have been referred to by the witness, amounts to between 19,000 and 20,000 acres, rather than have both parties be compelled to put in testimony upon the matter, if that is satisfactory to counsel.

Mr. LANGHORNE: We might accept the admission, with the right to show it otherwise at any stage of the case, if we have the proof. I mean that we accept as to waste Camp 13, Los Banos, Las Garzas and Firebaugh, with that proviso.

The MASTER: You accept the admission so far as the further examination of this witness in that regard is concerned, unless you desire later to recall him for that purpose?

Mr. LANGHORNE: Yes sir. Of course counsel has a great advantage over me.

Mr. TREADWELL: That is satisfactory, except that if counsel determines at any time that he does not wish to rest on the admission, of course we will have leave to withdraw it at any time, if counsel desires to produce evidence on it rather than to rest on the admission.

Mr. LANGHORNE: That is satisfactory, that part of it.

X Q. 270. I would ask you, Mr. Hammett, what you stated a while ago as to the use of these so-called waste waters from Camp 13 for the purpose of preparing land for raising grass for cattle and watering land for raising grass for cattle and for reclaiming from alkali—is that true also of the waters wasted from Los Banos waste and from the Los Garzas waste?

A. It is.

X Q. 271. And Miller & Lux as a matter of fact do graze large herds of cattle upon the lands so watered, do they?

A. They do.

X Q. 272. They do reclaim alkali land by that means, do they?

A. They do.

X Q. 273. And the waters so distributed over these lands
897 are distributed by a system of checks and levees?

A. Yes sir.

X Q. 274. And that has been going on for about how many years to your knowledge?

A. I can't state the number of years.

X Q. 275. Well, since you have been there?

A. Yes sir.

X Q. 276. Since July, 1907?

A. Since July 1907.

X Q. 277. Well, those checks and waste gates and waste ways and levees and so on are not newly constructed, are they?

A. They are not.

X Q. 278. Were they there when you became engineer for the company?

A. They were, in part. Of course this is work which is being carried on all the time.

X Q. 279. And they are there now, are they not?

A. They are.

X Q. 280. Have you the gauge readings showing the waste discharged from complainant's canal into the Poso canal during the year ending June 30, 1906?

A. I don't know positively whether I have or not. We have a number of gauge readings, but whether those were destroyed in the fire or not, I don't know, for that part of the year.

X Q. 281. Have you those for the year ending June 30, 1907?

A. I believe I have them in my files.

X Q. 282. Have you those for the year ending June 30, 1908?

A. I think I have those in my files.

X Q. 283. Can you produce them at the next hearing?

A. I can produce what I have.

Mr. TREADWELL: What does counsel wish to show by those guage readings?

Mr. LANGHORNE: I want to show the amount of water discharged into that canal.

Mr. TREADWELL: I took it for granted that counsel wanted that. I mean what point does he want to show that is relative to the case?

Mr. LANGHORNE: You have introduced here Exhibit 27,
898 an estimate, as I understand it, for the bill for the year 1908 as to the Poso farm and other lands of Miller & Lux and so on. I simply want to go over that. That is the main purpose, and see whether it is accounted for in the Poso canal.

X Q. 284. Then Exhibit 27, Mr. Hammett, do I understand that the estimates and figures you have there given are practically the bill of the complainant canal company against Miller & Lux for

the lands therein shown to be irrigated for the year ending June 30, 1908?

A. They are.

X Q. 285. And does it include the lands of the Las Animas & San Joaquin Land Co.?

A. It does.

X Q. 286. And has Miller & Lux and the Las Animas & San Joaquin Land Co. paid for the water in accordance with your figures and estimates of this bill?

A. I am not sure whether the money has actually passed or not. That is the bill which is submitted for payment. Whether the money has actually passed or not, I don't know.

X Q. 287. Had you not made up a bill of this character or of a similar character prior to October 9, 1908?

A. I think not.

X Q. 288. Then the irrigation year ended on June 30, 1908, did it not?

A. It did.

X Q. 289. And no bill was made up in regard to Miller & Lux to be paid by Miller & Lux and the Las Animas & San Joaquin Land Company for that irrigation year until this bill of October 9, 1908?

A. No.

X Q. 290. Did you make up a bill of that character—well, you have already answered that, that this is the first bill of that kind which you have made up?

A. Yes sir.

X Q. 291. Does this bill, Exhibit 27, include any irrigation of any lands for Miller & Lux on the east side of the San Joaquin river?

A. It does not.

X Q. 292. Or does it include the lands of Miller & Lux or the Las Animas & San Joaquin Land Co. other than those on the
899 west side of the San Joaquin River?

A. It does not.

X Q. 293. Are the head gates of the Poso ditch so arranged that they can take in or keep out such water as may be desired?

A. They are.

X Q. 294. At all seasons of the year?

A. Yes.

X Q. 295. How many acres will one cubic foot per second of water for 24 hours irrigate at the point of delivery?

Mr. TREADWELL: Do you mean on this particular canal or anywhere?

Mr. LANGHORNE: Yes, on this particular canal.

A. About eight-tenths of an acre.

X Q. 296. Is that amount sufficient to produce alfalfa for all cuttings for one year?

A. In an average case it is. Of course in all duty figures one must remember that for different soils it is different, and there may be different cases, some cases that would require double that amount of water and some which would require not half that amount of water; but that is the average amount in all cases.

X Q. 297. Is that the average case that you have estimated on in your bill?

A. It is.

X Q. 298. Exhibit 27?

A. Yes sir.

X Q. 299. And is that true also for raising grass?

A. That is true for raising grass also: for all irrigation.

X Q. 300. I notice in this Exhibit 27 that you have charged Miller & Lux with only 20 acres in Stanislaus county. Did they not own a place, quite a bit of land in Stanislaus county, known as the McPike place?

A. A very small part of the McPike place is in Stanislaus county, and of that only 20 acres was irrigated last year.

(By Mr. TREADWELL:)

Q. That is, of the part in Stanislaus county?

A. Yes.

(By Mr. LANGHORNE:)

X Q. 301. Now I notice in Exhibit 27, on page 3 of your report of October 9, and on page 1 of your report of October 30,
900 that a considerable amount of Miller & Lux's land in Merced county is charged for irrigation for the year at $1.25 per acre instead of $1.65. I will ask you why that difference is made?

A. Under the agreement or contract between the two companies, by which if only enough water is furnished to raise one crop, a rate not exceeding $1.25 per acre is charged.

X Q. 302. Have you reference to the contracts that are put in evidence in this case, or to some of the contracts that have been put in evidence in this case by complainant?

A. I am not sure whether the contracts have or not.

Mr. TREADWELL: We will admit that the contracts the witness refers to are in evidence here.

(By Mr. LANGHORNE:)

X Q. 303. You knew when you made up this bill, did you not, that the rate established by the board of supervisors of Merced county, that the county claimed to be in force for the irrigation year ending June 30, 1908, fixed the irrigation for all crops per acre at $1.65?

Mr. TREADWELL: The ordinance provides that it shall not be more than $1.65. There is no provision that it shall not be less.

Mr. LANGHORNE: Well, they fixed it at that rate.

(X Q. 303 read.)

A. Yes.

X Q. 304. Now in that portion of Exhibit 27, on page 3 of the report of October 9, you have under the head of "Stanislaus county" the following: "Carrying charge, 18,095.06 second feet 3.2 miles equals" &c. Is not that a mistake?

A. The heading "Stanislaus county" does not cover that. This

is in addition. This covers the whole carrying charge. The Stanislaus county heading ends at the line "20 acres were irrigated" &c.

X Q. 305. That carrying charge refers to the item below it on the same page, "Water carried for Miller & Lux, 57,904.19
901 second feet, does it not?

A. That is it.

X Q. 306. $289.52?

A. Yes.

X Q. 307. Now is it not a fact that that is the only carrying charge for what is known as excess waters on non-riparian land of Miller & Lux that you made at all in your report of October 9?

A. That is the only one, yes.

X Q. 308. And then all that is shown in your report of October 30 as to carrying charges for so-called excess waters is not shown at all in your report of October 9, with the exception of that one item, amounting to $289.52?

A. If you will look closely at the other report of October 30 and the explanation of the differences between the two reports of November 2, you will see all that explained. It means practically the same number of second feet in both cases with a rectification of a slight error found in the riparian lands.

(By Mr. TREADWELL:)

Q. Amounting to how many acres?

A. 111 I believe; 111.75 acres; but that difference in the charge is due to finding that a portion of it was not delivered through the Poso canal but was delivered at different points on the main canal, which made a longer distance carried.

(By Mr. LANGHORNE:)

X Q. 309. Well you knew that waters were carried further in the complainant's canal for Miller & Lux, furnished to the Poso canal, when you made up your report of October 9, did you not?

A. I did not know that they were carried further, no; that is, that excess waters used on riparian lands were carried further. I did not find that out until I segregated by ranches and found out where that excess water was used.

X Q. 310. When you found that out then—you didn't know that on October 9, 1908, and you made this investigation you mentioned, and did know it on October 30, 1908?

A. Yes.

X Q. 311. In other words, then, your computations in re-
902 gard to that matter as to the number of miles that Miller & Lux's water was carried through the complainant's canal was not made or based upon measurements that you made during the year ending June 30, 1908?

A. They were based on the measurements, certainly.

X Q. 312. Measurements of what?

A. Measurements of water; measurements of deliveries, and also measurements of land.

X Q. 313. Well, if that is true then, why did you omit these distances in your first report and limit the distance to 3.2 miles?

A. Because the total amount of water delivered to Miller & Lux—it had to be decided which water was delivered to them of their own water, or water which was being carried to them, and from the canal's water. Of course the particular water cannot be identified in a body of water flowing in a canal, and of course the segregation had to be made, and the water which was taken away, the first water that was delivered was considered as Miller & Lux's water until that was used up.

X Q. 314. Then during the year ending June 30, 1908, you did not know at any time when the water of Miller & Lux was being carried by the complainant through its canal for Miller & Lux, nor how much?

A. No.

X Q. 315. When were you first instructed, Mr. Hammett, to make out an estimate or bill such as is contained in Exhibit 27, and wherein what is known as excess waters carried for Miller & Lux are segregated from other waters furnished to them?

A. I can't give the date. It was sometime early in the year; I should say sometime in the month of March or April that I started to gather my data for it.

X Q. 316. Of what year?

A. Of the year 1908.

X Q. 317. Had you prior to that time known anything about this contract, Exhibit E, between Miller & Lux and the Las Animas & San Joaquin Land Co., and the complainant in regard to
903 this so-called excess waters and how they were to be paid for?

A. Yes I had known about it.

X Q. 318. You had known about it?

A. Yes.

X Q. 319. When did you first know about that tract?

A. I am unable to state the date when I first went into the matter. When I first went in with the company I had access to all their papers and was supposed to acquaint myself with all of their contracts.

X Q. 320. That contract was made in December 1905, was it not?

A. I have not the date in my head.

X Q. 321. Whatever the date is, you saw it, did you?

A. I did.

X Q. 322. It is dated the 4th day of December 1905 and you entered the employ of the canal company in July, 1907, was it not?

A. Yes sir.

X Q. 323. And nothing was done under that contract toward carrying out its provisions, so far as making out bills and segregating waters until the time you mention?

Mr. TREADWELL: We object to the question as to what was done, aside from what this witness did.

(By Mr. LANGHORNE:)

X Q. 324. So far as you know?

A. So far as I know, yes.

X Q. 325. I ask you in regard to the silting of this canal, if it is not the fact that the silting is mainly on the sides of the canal and not very much on the bottom?

A. The deposit is mainly on the sides. The silting is as much on the bottom as on the sides. That is to say, there is a large amount of deposit on the sides due to the growth of weeds in the slack water, which catches the silt after the first few years, after the weeds get to growing; but during the first years of construction of the canal until those weeds get a foothold, the silting is equal over the whole wetted perimeter.

X Q. 326. Does not the current in the canal have a
904 tendency to clear the bottom of the canal more than the sides of the canal from deposits of silt or matter in suspension?

A. In a general case it does not. The most rapid current is at a point betwen the bottom and the surface. The most rapid current is not against the bottom, as your question might suggest.

X Q. 327. Well, if there was any scouring at all in the water of the channel, if there is any current to scour it—what is known as scouring—is it not more on the bottom than it is on the sides?

A. Not necessarily. It depends altogether upon the formation of the sides. There are cases where earth is taken from the sides and deposited on the bottom. You can't give it in any general case, whether on the sides or on the bottom.

X Q. 328. In a straight channel would it not be more on the bottom than on the sides—the scouring?

A. I think not.

X Q. 329. Now in Exhibit 27 these estimates that you have given of the number of acres irrigated, did you measure the acres with reference to the water used on the land to determine the number of acres irrigated that year?

A. That is the way it was made out, mainly; that is to say, the total number of acres irrigated from any source, whether by waters of Miller & Lux or by waters which the canal company has a right to divert, were measured. Those acres were actually measured. That is to say, they were known parts of certain fields and certain subdivisions.

X Q. 330. Those were measured were they?

A. Those were measured.

X Q. 331. You have those measurements?

A. I believe I have those measurements, yes.

X Q. 332. Will you please produce them?

A. I haven't them with me.

X Q. 333. I mean at the next hearing.

905 Mr. TREADWELL: What do you mean? The measurements? The total number of acres that were irrigated?

Mr. LANGHORNE: Yes.

(By Mr. TREADWELL:)

Q. Have you got that, Mr. Hammett?

A. Yes.

Q. Have you got it with you?
A. No I haven't it with me.

(By Mr. LANGHORNE:)

X Q. 334. Then you have measured the total number of acres of Miller & Lux's lands and of the Las Animas & San Joaquin Land Company's lands that were irrigated from waters of the complainant's canal for that year?

A. Yes.

X Q. 335. And then you determined the amount of riparian and non-riparian land?

A. Yes.

X Q. 336. And did you also make notes of that?

A. I also had notes of that, yes.

X Q. 337. Will you please produce those?

A. Yes.

X Q. 338. Now then, how did you arrive at the amount of excess water on the non-riparian land, the so-called excess water, in this exhibit?

A. There was a certain amount of water which was taken into the canal for the use of Miller & Lux. That water, the proportion of that water to the amount of the water which the canal had a right to use; that is, the proportion of that water which was used on Miller & Lux's lands and the proportion of the water which was taken from the 760 feet that was used on Miller & Lux's lands, that proportion of acreage was also taken as the acreage irrigated. To that was added all the riparian lands that were irrigated, whether irrigated from excess water or from the regular 760 feet; because the canal had a right to carry that water.

X Q. 339. In the first place then, in making that calculation you had to account for all the 760 feet on non-riparian land, did you not?

A. Yes. No, No. It was used as it came, whether riparian or non-riparian.

906 X Q. 340. You said a while ago that a certain amount of water was carried for Miller & Lux. Was that measured at the time it was carried, as Miller & Lux's water?

A. That was measured as—no, it was not measured as Miller & Lux's water.

X Q. 341. You did not make that calculation until after the year was over, did you?

A. I did not make the calculation until after the year was over.

X Q. 342. Well, what you did then, Mr. Hammett, was not to measure the water with reference to the particular land irrigated by any particular class of water on any particular class of land at the time of running through any part of a year, but you made your calculation at the end of the year by determining first, the character of the land, and then estimating the water that went on to that land during the year? Is that right?

A. Oh no, the amount of water was not estimated that went on to that land, but the only estimate that was made that you could call

an estimate, was the proportion of that land according to the water—according to whether that water was part of the 760 feet, or was excess. The actual amount of water was actually measured, that was put on the land. But whether that water was the property of the canal company or was the property of Miller & Lux, was a subject of calculation, and those calculations could not be made at the time that the water was going on, because the system is a large one and canal section men are not book-keepers and do not carry books themselves, and their reports were somewhat irregular. That is to say, during the irrigation of lands a number of these reports are turned in at the end of irrigation for those days; and consequently it had to be made up in the office, anyway, and by the engineering department. It was as simple to do that at the end of the year as it
907 was to do it every month or every six weeks.

X Q. 343. During what portions of the year are these waters wasted through these waste gates?

A. During times when the large quantities of water are being taken in the canal and when a large amount of irrigation is going on which will make the rapid changes in the amount of water called for.

X Q. 344. Well, there is water wasted now at this time, is there not, in November?

A. I don't know whether there is or not. I could only tell by referring to the measurements. There is likely to be water wasted at any time during any month at any season of the year, if suddenly a number of irrigators, a number of men who are irrigating, who are using water in the canal, suddenly shut off, and before the canal men can divert the water out to other irrigators. Then the waste gates are working.

X Q. 395. Is not the canal now below these waste gates nearly empty at the present time?

A. The canal what?

X Q. 396. Is it not nearly empty now below these waste gates?

A. Below what waste gates?

X Q. 397. Well, say Los Banos, the waste gates below Los Banos.

A. I don't know. It is not empty if there is anyone calling for water below the Los Banos waste gate.

X Q. 398. It is a small matter, but I notice in regard to these 20 acres in Stanislaus county, that you have got a charge on that of $1.25 in your last report, and that the county rate was $1.50. Was that a difference due to the contract you have referred to in regard to the land in Merced county.

A. Yes I found on investigation between the two reports that that was only irrigated for one crop. Water was only furnished for one crop.

X Q. 399. This Exhibit 27 does not contain any bill or charge against Miller & Lux for water sold to them for use in the town of Los Banos, does it?

A. No, it does not.

908 X Q. 400. Just the lands?

A. Just the lands.

X Q. 401. You can have those matters in regard to the Poso canal at 2 o'clock, can you not?

A. I don't know whether I can or not. I don't know whether they are here in my office in the city or not, or whether they are down in the country. I will have to see.

X Q. 402. Well now, what is called the meter measurements of the Poso canal, are they the measurements taken of the water flowing through the complainant's canal into the Poso canal, what is known as the meter measurements?

A. I suppose they are. I don't know what you refer to by the meter measurements.

X Q. 403. Are there more than one kind of measurements?

A. No, not more than one kind of measurement. That is to say, there are measurements taken daily, or supposed to be taken daily, at the head of the Poso. There are lapses, of course, due to the——

X Q. 404. Those measurements are what I want; those measurements and also the discharge table for the Poso canal.

A. We have no discharge table for the Poso canal. We don't take by standard cross section and discharge table. We have to make actual meter measurements and interpolations.

X Q. 405. Is there any difficulty in ascertaining, Mr. Hammett, whether the lands of Miller & Lux or of the Las Animas & San Joaquin Land Co. are irrigated from waters that are carried through the Poso canal or from waters which are brought in from any other source, such as the Poso?

A. No, there is not. In some cases there is because there are some lands which are irrigated from both at different times, and some lands that are irrigated from both at the same time.

X Q. 406. Well if that is so, how are you able to make up a bill of the irrigation of the canal company's waters sold to Miller & Lux and carried through the Poso canal?

909 A. Where they are irrigated at all from the canal, they are charged for.

X Q. 407. The whole charge, for the whole year?

A. The whole charge for the whole year, with the exception that if they are irrigated from excess waters carried through the canal, of course we would charge only the proportion of it; but if they were irrigated from outside sources and also irrigated from the canal, they are charged as though they are irrigated only from the canal.

X Q. 408. There will be no difficulty in determining that question as to non-riparian lands, will there—that is, the non-riparian lands of Miller & Lux would not be irrigated from Poso as well, would they?

A. Some of them would be likely to, yes.

X Q. 409. That is, their ditches would carry water there?

A. Yes.

X Q. 410. Is that a fact, that there are ditches irrigating those non-riparian lands?

Mr. TREADWELL: Now what can that have to do with this case, whether Miller & Lux irrigate from that source or from some other source. It surely cannot be material.

Mr. LANGHORNE: They have produced a bill here as a basis for a charge against Miller & Lux. At the request of counsel I have not called for the maps. If you will look on the map you will see that everything down there belongs to Miller & Lux. They have produced a bill here in which they claim that they have accurately charged Miller & Lux with their proper proportion of irrigation. I simply want to arrive at the facts. I want to get them before your Honor. Apparently they do not want these things to come up, because of the Stevinson case, for fear that somebody will find out how much riparian land and how much non-riparian land, or whatever it may be that they are irrigating, which they are probably
910 not entitled to irrigate. If this bill is not right we have a right to show it. If it is right, that is an end of it, an end of that part of it anyhow; and that is what I am asking this witness about. I cannot understand from this bill what I wish to know in regard to these lands. The amount of water that comes from that Poso canal is a great deal more than will irrigate what they have returned here in this bill. I am simply trying to find out about that.

Mr. TREADWELL: His question now, as I understand it, is if Miller & Lux has got some land there which it irrigates from the river or from some other source than this canal. Of course it is admitted that they have a perfect right to do that. I do not see that what land Miller & Lux irrigates from some other source can be material.

Mr. LANGHORNE: It is only material in this way: We are carrying down complainant's canal a lot of water which comes down the Poso and which we are entitled to get paid for and which we are not paid for. I don't care anything about the land that they irrigate from other sources, the Poso slough or any other slough, just so long as I am satisfied that we are getting paid for the water which is carried down to Poso ditch and turned over to them. It will not be shown by asking what land Miller & Lux irrigates from some other source.

The MASTER: I am inclined to agree with counsel for complainant.

Mr. LANGHORNE: It is only material in connection with that segregating. If your Honor sustains the objection, we will take an exception.

The MASTER: I sustain the objection. I don't see how it is material.

M. LANGHORNE: We take an exception.

X Q. 411. Now then, can you produce also, Mr. Hammett, a map or plat of some sort showing the waters flowing, or showing
911 the lands which are irrigated or watered; first, we will say, a plat of the cultivated lands of Miller & Lux and of the Las Animas & San Joaquin Land Co. which are irrigated from the waters carried through the Poso ditch; and secondly, any other kinds of lands of Miller & Lux and the Las Animas & San Joaquin Land Co. which are irrigated or watered with any such waters that are carried through the Poso ditch?

A. We have the data for producing such maps, but it would be considerable expense to produce them.

X Q. 412. Well, I don't want an elaborate map. You have al-

ready maps of this whole thing, and if you just made a little sketch showing the extent of the lands, the number of acres.

Mr. TREADWELL: He has testified to the number of acres.

Mr. LANGHORNE: I know he has testified to the number of acres.

A. But to put it in a map here, the data, the actual acres in the different fields which are irrigated, would have to be on a map, in color. It would be some expense.

X Q. 414. How much expense would it be?

A. Well I imagine, to put it down for the year 1907–8, for the season of 1907–8, to make an irrigation map covering that, would cost somewhere about $50 or $60.

X Q. 415. Would that map be also true for the preceding year?

A. Oh no, there is a different amount of land irrigated each year. That is sometimes the same and sometimes different. I can't say that that information covers any year.

X Q. 416. Do you know what it was for the year June 30, 1906, about?

A. Yes, we have the data of the land irrigated.

X Q. 417. What would it cost to make each one of those maps?

A. As I say, about $50 or $60.

X Q. 418. For each one?

A. Yes.

Mr. LANGHORNE: The defendants in this suit are willing
912 to pay that sum for each one of those maps, and we ask the witness that he make them.

Mr. TREADWELL: As far as we are concerned, you will have to pay your own expert to have your maps made.

Mr. LANGHORNE: Well we are willing to do that.

(At the hour of 12 M. recess was had until 2 P. M. when the cross-examination of the witness W. C. Hammett was resumed as follows:)

X Q. 419. Mr. Hammett, have you the daily meter measurements of water delivered into the Poso canal for the year ending June 30, 1907?

A. I have the measurements beginning in February, 1907, until sometime in 1908. They will be here in a few minutes. Those are all that we have in this office.

X Q. 420. I understood you to say that you had the data showing the lands which were irrigated with the water flowing through the Poso canal, that is, the sections and quarter sections of land?

A. Well, I have the data of what land was irrigated altogether, and from my knowledge I can tell from what canal it was irrigated, although some of the land was irrigated there from the waters of the Colony canal system; that is to say, the ditches from the two came together, so that the water can be furnished from either system.

X Q. 421. When you say the Colony canal system, do you mean the Dos Palos colony?

A. The Dos Palos Colony.

X Q. 422. But you have, I understand, the measurements of the water into the Poso canal for the entire year ending June 30, 1907?

A. We have.

Mr. TREADWELL: Ending June 30, 1907?

Mr. LANGHORNE: Yes, ending June 30, 1907.

A. No, these measurements which I have and which I have sent for began in February, 1907, but in the country we have
913 the measurements for the rest of the year which the hydrographer there is putting into the shape of reports to send to our office.

X Q. 423. And you have the data for such measurements, have you not, for the year ending June 30, 1908?

A. Yes.

X Q. 424. I hand you a map which is furnished by the complainants to the defendants as being a copy of the map Exhibit No. 2. Will you compare this map which I hand you, entitled "Map of irrigation system of the San Joaquin & Kings River Canal & Irrigation Co., scale 1 mile to 1 inch," and compare it with the complainant's Exhibit 2 and tell me whether or not it is a copy of Exhibit 2?

A. Yes, it is a copy.

X Q. 425. Now I ask you if you will mark on this map, which is a copy of Exhibit 2, the lands of Miller & Lux and of the Las Animas & San Joaquin Land Co. that were irrigated for the year ending June 30, 1908, with waters belonging to the complainant canal company and that were delivered through the Poso ditch and that were used to irrigate the non-riparian lands of Miller & Lux and of the Las Animas & San Joaquin Land Co.

A. I am unable to do it with any data which I have here.

X Q. 426. I understood you to say that you had the data.

A. I have that data in the files of our office. I have the data showing each class of land as referred to other maps on which the fences and fields are marked and on which the fields are numbered. And I also said that in order to put that on a general map of this kind, it would take a matter of several days and considerable expense to put those fields on in the way you have specified, on a map of this style.

X Q. 427. And have you also the data in regard to the waters of the complainant canal company that were sold for the year ending June 30, 1908, to Miller & Lux and the Las Animas & San
914 Joaquin Land Co. and that were furnished through the Poso canal and that irrigated the riparian lands of Miller & Lux and of the Las Animas & San Joaquin Land Co.?

A. I have that data.

X Q. 428. I also ask you if you will indicate those lands referred to in my last question upon this map, a copy of Exhibit 2.

A. The same answer applies to that, that the data is not in form so that I can put them on this map without comparing with other maps and going to considerable time, spending considerable time in doing it.

X Q. 429. And have you the data showing the number of acres of non-riparian lands of Miller & Lux and of the Las Animas & San

Joaquin Land Co. irrigated during the year ending June 30, 1908, with waters belonging to Miller & Lux and the Las Animas & San Joaquin Land Co., and that were carried through the Poso canal, through the Dos Palos and through any other cana-, for the year ending June 30, 1908?

A. Is not that the same as your first question?

X Q. 430. My question relates to the waters belonging to Miller & Lux and to the Las Animas & San Joaquin Land Co.

A. I have the data, but I believe that that was the question I intended to answer, the first question.

X Q. 430. Well, will you bring that data into court here before his Honor and show upon this map, a copy of Exhibit 2, what those lands are.

Mr. TREADWELL: Do I understand that you are asking him now if he can give you the description of the particular land that was irrigated by this water which you say belonged to Miller & Lux as distinct from the canal company's water? I think the witness is in error when he says he can point out the lands.

The WITNESS: As I understood the question, it was the land which was irrigated from that particular water. Well, the way I in-
915 tended to answer the question was that I have the whole land irrigated. I had previously stated, and I thought it was understood that the two were proportioned out, that the land was proportioned out according to whether it was irrigated by waters, by excess waters or by the 760 feet, or whether it was riparian or non-riparian land; that it was apportioned out. Well I can indicate on this map, with the necessary amount of work, I can indicate on this map, the lands irrigated, and can show the proportion of them that were irrigated by the two kinds of water.

Mr. LANGHORNE: Well we ask you to do that.

Mr. TREADWELL: I don't think it is any part of the duty of the witness to make maps. If you want to ask him a question as to what lands are irrigated I suppose he will have to testify. I don't think it is his duty to make maps for you.

Mr. LANGHORNE: Of course, Mr. Hammett, we ask in the first place whether you decline to place those lands upon this map, this copy of Exhibit 2, in answer to the questions that we have asked?

A. Well I can best show you what form that data is in, and then see whether I am ordered to put it on this map. The data is in the form of lists of the separate lands and the section and township in which each lot is located, which were irrigated.

X Q. 432. You have those lots, have you?

A. I have those lots. Yes, we have copies, we have impression copies of those lands, and those refer to lot numbers which are on particular plats, drawn to 2000 feet to 1 inch scale, known as the canal plats, from which the sectionmen on the canal work, and all men connected with the canal work. Those lots are not on any of our other maps, and to put them on this map we have to go back to particular maps and mark them on the plats and then we would reduce them to scale, the scale of this map, and put them on the map.

X Q. 433. You have the data giving the sections and quarter sections and description of the lots?

916 A. The sections and quarter sections and description of the lots.

X Q. 434. You can bring those into court, can you?

A. I can bring the impression books in which they are contained.

X Q. 435. Will you bring those into court?

A. Yes.

X Q. 436. I understood you to say that some of those lands are sometimes irrigated from waters from the Poso canal and sometimes from waters from the Colony or Dos Palos canal?

A. Yes.

X Q. 437. Will you bring the description of those lands?

A. Well I can testify to my own knowledge in the case of each particular piece of land whether water can be put on that land from the Poso canal or whether it can be put on by the Colony canal or whether it can be put on by the main canal or whether it can be put on from all three or any two of them; but the particulars as to whether it was irrigated during the year from one or all, that I can't give.

X Q. 438. But you can bring the description of those lands which are sometimes irrigated from one canal and sometimes from the other?

A. Yes, I can point them out.

X Q. 439. You can point them out?

A. Yes.

X Q. 440. I understood you to say that you did not have the measurements of the Poso canal for the year—have you got the measurements of the Poso canal?

A. I have the measurements of the Poso canal from February 1, 1907 to April 1, 1908.

X Q. 441. Are they daily measurements?

A. They are daily discharges.

X Q. 442. What do you mean by discharges? Do you mean the water which is discharged into that from the main canal of complainant?

A. Yes.

X Q. 443. Now commencing with the month of July 1907, those measurements of the waters discharged into the Poso canal were they all taken at the same station?

917 A. They were all taken at the same station, the head gate.

X Q. 444. There is a station a little below the head gate—a measuring station?

A. There is a measuring station a little below the head gate, which occasionally used to check the pressure measurements on the gate, but the pressure measurements on the gate were the ones generally used.

X Q. 445. Now then will you please commence in the month of July and give those measurements. If there are some measurements for a number of days, you can state them from such and such a

date to such and such a date, both inclusive, that the measurement is so and so.

A. July 1 to 19, 85.86.

X Q. 446. That would mean that they are both inclusive?

A. Yes.

X Q. 447. You mean by "85.86" that it is eighty-five and eighty-six one-hundredths cubic feet per second?

A. Yes.

X Q. 448. And that will apply to all your testimony reading in that way?

A. It will. July 20 to 24, inclusive, 64.80; July 25 to 31, inclusive, 85.86.

X Q. 449. Will you go straight along through all the data you have for that irrigation year?

A. August 1 to 3 inclusive, 85.86; August 4 to 6 inclusive, 97.20; August 7 to 16 inclusive, 129.60; August 17, none; August 18, 129.60; August 19, 122.25; August 20, 114.48; August 21, and 22, 129.60; August 23 to 26 inclusive, 122.25; August 27, 114.48; August 28, 122.26; August 29 and 30, 129.60; August 31, 122.26; September 1, 129.60; September 2, 147.96; September 3, 132.30; September 4, 108; September 5, 92.02; September 6, 112.10; September 7 to 16 inclusive, 129.60; September 17, 145.15; September 18 to 24 inclusive, 129.60; September 25, 145.15; September 26 to 29 inclusive, 129.60; No measurements until October 19 on which day there were 54 feet; October 20 to 26, inclusive, 108 second feet; October 27 and 28, 76.68 second feet; October
918 29 to 31 inclusive, 93.42 second feet; November 1 to 7 inclusive, 93.42; November 8 to 18, 76.68; November 19, 65.88; November 20, 54; November 21, 76.68; November 22, and 23, 54; No further measurements until December 2. December 2 and 3 76.68; December 4, 85.15; December 5, 93.42; December 6, 85.15; December 7 to 9 inclusive, 76.68; December 10, 54; The same for the rest of the month. January 1 to 8 inclusive, 54 second feet; January 9 to 15 inclusive, 76.68; January 16 and 17, none; January 18 to 20, 76.68;

X Q. 450. Do you mean there is no water when you say "none" or no record?

A. No water. January 21 and 22, 100.98; January 23 and 24, 108; January 25, 76.68; January 26 to 28 inclusive, 38.34. No water from that date to February 8th. February 9, 54; February 10 to 16 inclusive, 108; February 17 to 19 inclusive, 120.96; February 20, 108; February 21 to 25 inclusive, 120.96; February 26 to 28 inclusive 108; February 29, 120.96; March 1 to 13 inclusive, 120.96; March 14 and 15, 76.68; March 16, none; March 17, 120.96; March 18 to 30 inclusive, 93.42; March 31, 86.40; April 1, 108; April 2 and 3, 86.62; April 4, 122.26; April 5 and 6, 136.94; April 7 and 8, 132.30; April 9, 152.82; April 10, 171.72; There is no measurement here on the 11th, 12th and 13th. April 14, 172.80. I think I have a more complete record of that month elsewhere.

X Q. 451. Is that the end of your record?

A. That is the end of my record.

X Q. 452. What is the last day?

A. The last day in sequence is April 10, 171.72. Then there is a blank for three days and on the 14th there is 172.80.

X Q. 553. Then can you bring in those from April 10, 1908 up to the end of June 1908?

A. I will look through the weekly reports and I think I can find them.

Mr. LANGHORNE: If your Honor please, the witness is to produce data as to these lands and these water measurements referred to, and I think that will about conclude my cross-examination.

919 Up to that time there is nothing I can ask him about especially.

The MASTER: Is there anything further now?

Mr. LANGHORNE: No, not at this time.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Hammett, I neglected to ask you if you had the right of way of the complainant company here over which these canals run,—if it is fenced?

A. A portion of it is fenced.

R. D. Q. 2. Can you give in the aggregate the number of miles of fencing along the canal?

A. Yes, do you want it according to the different canals, or all together?

R. D. Q. 3. Either way you have it. Give it according to the different canals, then give the details.

A. On the main canal there are 62 miles of wire fence. On the outside canal there are 52 miles, and on the Colony canal 29 miles, making a total of 143 miles of wire fence.

R. D. Q. 4. Are you familiar with the cost of constructing this kind of fence?

A. Yes.

R. D. Q. 5. What are the materials that go into a fence of that kind?

A. Fence-posts and wire.

R. D. Q. 6. And what are they worth per mile?

A. Fence-posts are generally placed 16 feet apart and are worth about 20 cents a post, and sometimes they use pickets between, which would be worth, I should say, about five cents a picket. Wire is worth, delivered in Los Banos, three and one-quarter cents a pound which would be for a mile of 4-wire fence, about $46.

R. D. Q. 7. What amount does that make per mile?

A. That would make 330 posts, $66; 330 pickets, $16.50. The wire would be $46, and the digging of the post holes and

920 stretching the wire &c., say $20 a mile, would make altogether $148.50 a mile.

R. D. Q. 8. And for 143 miles, how much does that foot up? Have you got it figured?

A. It would be $21,235.50.

R. D. Q. 9. Will you state whether or not the outside canal is used for the purpose of carrying water down as far as Stanislaus county, if so, in what way?

A. It is used occasionally. There are five connecting canals between the outside canal and the main canal shown on Exhibit 2 as outlet canals 1 to 5 inclusive. In case of anything being wrong with the main canal or in shutting off of the main canal for the purpose of replacing structures or anything of that nature, the water is carried down the outside canal and put in the Main canal through these various outlet canals.

R. D. Q. 10. How is that handled in case of cleaning the canal, the removal of silt from the bottom?

A. A stop gate is shut above the part which is to be cleaned and another one below the part that is to be cleaned, the water is taken from the outside canal and taken through and outlet canal below the last stop gate mentioned.

R. D. Q. 11. In order to remove silt from a canal, do you have to take all the water out of it?

A. Under the present arrangements, we do.

R. D. Q. 12. You gave some figures here, Mr. Hammett, as to what you gave as your opinion as to what might be termed the average life of structures in these canals. I would ask you if that meant the life of them while being used and properly used, being taken care of them during that period?

A. Not exactly. I would consider that that would be the life of a structure. Of course proper care is to be taken of a structure anyway. But it means without any repair being made on it; the actual life of a structure doing its duty.

R. D. Q. 13. Well, what I mean is, while the canal is being
921 used? There are things that have to be repaired now and then, not talking about replacements, but breaks and ordinary things of that kind, in order to keep it going?

A. With those replacements, with those repairs, the structures would probably last a great deal longer than the life given in my previous estimate. I should say that in a general case by making repairs right along, the life could be indefinitely prolonged.

R. D. Q. 14. You gave an estimate here of the amount of land which could be irrigated by the flow of a cubic foot of water per second. In the first place I would ask you where you measured that water. At the head of the canal or at the ditch, the distributing ditch, or at the land?

A. The estimate that I gave was based on measurements at the point of discharge from the canal; that is, at the head of the distributing ditches.

R. D. Q. 15. Have you made measurements for the purpose of determining the amount of water that is used for irrigation of the lands under this canal? I say, have you made measurements for the purpose of determining the amount of water that is used for the irrigation of land under these canals?

A. Yes, the amount of water at the head of the canal?

R. D. Q. 16. Yes, at this point that you are talking about, at the canal.

A. At the distributing point?

R. D. Q. 17. Yes.

A. That is what that is based on.

R. D. Q. 18. I say, you have made measurements to determine that? This is not simply an estimate?

A. Oh no, that is from actual measurements.

R. D. Q. 19. What kind of measurements have you taken for the purpose of determining that fact?

A. The water that has been delivered for irrigation, all the water that has been delivered for irrigation has been measured at the point of leaving the canal, and the amount of land irrigated has also been measured, taken from the plat book which is made
922 in actual surveys, and the one divided by the other gives the amount of water necessary to irrigate each tract.

R. D. Q. 20. On the average?

A. On the average.

R. D. Q. 21. And did you find that that amount was the same on all the land in each of the three counties, or did you find it different?

A. It is practically the same throughout. They duty is very uniform.

R. D. Q. 22. Was there any difference? You say it is very uniform.

A. I didn't get it exactly by the different counties, for the reason that some of our ditches have the heads in one county and the point where the water is used in another; consequently—my records do not show the amount of water used in any one county; that is the amount of water delivered in the county did not extend to the acreage of that county, and consequently I lumped the three counties in order to get a more accurate measurement.

R. D. Q. 23. Well in getting this average which you made up in that way you haven't got the figures by which it shows the amount of waters delivered in each county for the land that is in that county, and therefore, the average amount of water that is taken per acre in that county?

A. That is all right with the exception of the Poso canal. The water that comes into the Poso canal is used in both counties, and since it is not measured out of the Poso canal—it is only measured into the Poso canal and not measured at the point of delivery on different lands, I cannot tell, except arbitrarily, what portion of water which gets into the Poso canal is used in Merced county and what part on Fresno county.

R. D. Q. 24. But where you had land that you knew was entirely in Fresno county, you knew the amount of water that was put on that land? What I want to get at is, how much on the average did it show that it took to irrigate the land in Fresno county? That, I understand you have got.

923 A. Yes, but I haven't got it separate for Fresno county.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. This 143 miles of fencing was put up by the canal company, was it not?

A. I don't know.

R. X Q. 2. You found these fences there when you came there in July 1907?

A. Yes.

R. X Q. 3. What portion of this 62 miles of fencing on the main canal is there? Where is that?

A. Well, most of it is on the lower end of the canal from, say, Camp 13; a little beyond Camp 13.

R. X Q. 4. You mean commencing between Camp 13 and the head of the canal?

A. No; commencing at a point between Camp 13 and Los Banos.

R. X Q. 5. Running north and south?

A. It runs down the canal. Up the canal there is very little fencing.

R. X Q. 6. And this fencing on the outside canal, this 52 miles, where is that?

A. Various places along the canal; principally at the lower end of the canal. The most fencing is at the lower end of the canal, where the canals run through Miller & Lux's own lands there is very little fencing in there; that is, comparatively very little.

R. X Q. 7. This Colony, the Dos Palos canal, where is that fencing?

A. That has various small patches, small pieces of fence. It is not fenced continuously.

R. X Q. 8. You don't know whether that fencing was put up by the owners of the ditches or by the canal company, do you?

A. No, I do not.

R. X Q. 9. Or whether where the canal passes through Miller & Lux's land it was constructed by the canal company or by Miller & Lux?

A. No, I don't know.

924 R. X Q. 10. These figures that you have given of this fencing are of the present cost of posts and pickets and wire and labor for putting up a new fence, is it not, at the present time?

A. That is practically what it would cost at the present time, yes.

R. X Q. 11. You don't know how long these fences have been there, do you?

A. No. I did not estimate in my valuation, a depreciation of the fences. The fences are not figured anywhere.

(By Mr. TREADWELL:)

Q. That is, you mean, covered by matter that is contained in Exhibit 26?

A. Yes.

Q. The fences are not in there, you mean?
A. No.

(Further hearing adjourned to Saturday, November 14, 1908, at 10 A. M.)

925 SATURDAY, *November* 14, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Mr. TREADWELL: I would like to state that since the last adjournment I have concluded that if there are any facts in the conduct of the business of complainant which could be detrimental to it in the hands of its adversaries, they will substantially all come out anyhow, and we do not ask counsel to withhold going into any matter that he wishes; and on the particular matter that was up at the last hearing, as to making maps showing the irrigation of Miller & Lux's lands during the year 1907-8, we have reconsidered our determination and at a great deal of labor have made those maps ourselves, and without any charge to the defendant, and are willing to have them introduced in evidence.

Recross-examination of W. O. HAMMETT resumed.

By Mr. LANGHORNE:

R X Q. 12. Mr. Hammett, when you were testifying the other day about measurements of the water taken in the Poso canal from the complainant's canal, you stated that you would look up and bring the measurements from April 10, 1908, up to the end of June, 1908. Have you brought those?

A. I have brought them, yes sir.

—. — Q. —. Will you please read those?

A. Well the last one I gave I think was on April 10, and I believe that was 171.72, was it not? There are none between April 10 and 14.

R. X Q. 14. Do you mean that there were no measurements or that there was no water?

926 A. No measurements; and the measurements were only taken at intervals from then on, and will have to be interpolated between for the total quantity.

R. X Q. 15. Then from April 14?

A. April 14, 172.80. April 14 to April 21, there was no measurement. April 21 was 144.29. April 22, two measurements. 138.05 and 142.19. No measurements until May 2. May 2, 138 even. May 11——

R. X Q. 16. Anything between May 2 and May 11?

A. No.

R. X Q. 17. No measurements?

A. No measurements. May 11, 107.06; May 12, 108.94; May 13, 108.94; May 14, same; May 15, 16 and 17 same; no measurements until May 21. May 21, 104.12; no measurements until June

3, on which date, 103.98. June 4, 102.31 June 7, 104.34; June 8, same; June 9, 100.66; no measurements until June 17. On that date 130.86; no measurements until June 25. On that date two measurements; 127.94 and 129.91. That is all until the end.

R. X Q. 18. No measurements between June 25 and including June 30?

A. No.

R. X Q. 19. How did it happen, Mr. Hammett, that no measurements were taken at the dates you have mentioned during the year ending June 30, 1908 ?

A. The hydrographer at that point—we only have one hydrographer, and he is called off on other work. In fact, his scope extends to the entire distribution of the water going through the Poso canal and the water leaving the river for any use of Miller & Lux, and for the California Pastoral & Agricultural Co., and also for certain measurements that we have to take on the Stevinson canal, consequently he was unable to be constantly at the head of the Poso canal, and he took measurements from time to time as he was able.

R. X Q. 20. What was the name of that hydrographer?

A. J. S. McCain.

R. X Q. 21. Why was not more than one hydrographer employed?

A. Because the policy of the company has always been
927 toward economy in their engineering department.

R. X Q. 22. Then you don't know what was the total amount of water that was delivered through the complainant's canal into the Poso canal for the year ending June 30, 1908?

A. Yes, we do as near as we do any amount of water which is delivered, which is taken from separate measurements and not from a constantly recording meter.

R. X Q. 23. Then do you know what amount of water was so delivered into the Poso canal from September 29 up to October 19, 1907, during which time you have said that no measurements were taken?

A. I have not the data here but it was a case where water was running and no measurements were taken, then the assumption was that the water ran constantly between those dates, and that the average between the measurements on the two dates would be the average quantity per day which was delivered into the canal between those dates. I don't remember whether my testimony was that no water ran between those dates or that no measurements were taken.

R. X Q. 24. Your testimony was that no measurements were taken during the time I have mentioned.

A. In that case, the quantity of water which was delivered was the average between the two readings.

R. X Q. 25. And you simply averaged it then in regard to all these periods during which no measurements were taken, taking as figures the last measurement and the next measurement with reference to those periods?

A. That is correct.

—. — Q. —. Was the testimony here which you have given in Exhibit 27, of the acreage irrigated by Miller & Lux during the year ending June 30, 1908, based in any degree upon these measurements for that year of the discharge into the Poso canal?

A. It was. The discharge into the Poso canal was taken the same as the discharge into any other delivery ditch as the portion of water which irrigated the land of Miller & Lux.

928 R. X Q. 27. And you estimated the acreage on that basis, did you?

A. I did.

Mr. TREADWELL: What do you mean by "acreage?"

Mr. LANGHORNE: Acreage irrigated.

R. X Q. 28. That is, in this Exhibit 27?

A. In the Exhibit 26 I calculated the acreage irrigated; that is to say, the proportional acreage irrigated, according to the number of second feet of excess water and the number of second feet of the water belonging to the 760 second feet and the discharge into the Poso canal entered into that calculation the same as the discharge into any other distributing ditch which was delivering water to Miller & Lux.

(By Mr. TREADWELL:)

Q. Which is true for the purpose of determining the proportion, but in determining the number of acres actually irrigated, you had those figures, irrespective of the amount of water used?

A. Yes.

(By Mr. LANGHORNE:)

R. X Q. 29. Well then, in this Exhibit 27, was the acreage actually irrigated for Miller & Lux based upon your measurements of land or upon your measurements of water?

A. Upon the measurements of land.

R. X Q. 30. And upon the measurements of land only? Is that right?

A. Upon the measurements of land only.

R. X Q. 31. Then what was the purpose of measuring the water?

A. Only to determine what proportion of that land which was irrigated was irrigated by water which actually belonged to the canal company and what proportion was irrigated by water belonging to Miller & Lux.

R. X Q. 32. And then you have in Exhibit 27 made that distinction?

A. I have.

R. X Q. 33. And consequently the amount of land which was irrigated by waters belonging to Miller & Lux depends upon these measurements partly, and to the extent, do they not, that you

929 made of the poso canal during that year?

A. They do.

R. X Q. 34. Now in what other ditch or canal did you measure for the year ending June 30, 1908, the waters delivered to Miller & Lux?

A. I have not here a record of the measurements of what ones they were, but there were probably something like 60 or 80 different ditches that it was delivered to Miller & Lux through.

R. X Q. 35. Were they all measured?

A. They were all measured.

R. X Q. 36. Was the measurement taken each day?

A. I don't know whether they were taken each day or at other periods; that is to say, some of them were taken between periods; sometimes they had several measurements a day and sometimes the measurement perhaps would extend over two or three days between the times when measurements were taken. The same system was used for delivery of water to Miller & Lux as for every other consumer on the canal.

R. X Q. 37. Well, then, as I understand you, Mr. Hammett, in each one of these ditches or canals for the delivery of waters to Miller & Lux, there were periods during the year ending June 30, 1908, during which no measurements of the water were actually taken. Is that true?

A. That is true in this sense, that there are in every ditch—there is a period, a period maybe only a few hours and the period may extend over forty or fifty hours, that no measurements are taken. If you mean have we a record of continuous gauges or continuous readings on every box, we have not. Measurements are taken from time to time. The interval between the measurements varies between the boxes; but the average between the two is supposed to be the delivery through that box.

R. X Q. 38. Now in regard to the Poso canal, your testimony shows that sometimes for a week, a period of a week at a time, no measurements of water were taken. Is that true of these other canals into which water was delivered for Miller & Lux
930 during that year?

A. I can't say now as to what the periods would be between different owners. I imagine that there are none in the smaller boxes that the company has as high as a week. I imagine that probably measurements in both of them were taken every day or every two days at least.

R. X Q. 39. Now there was some of these waters delivered to Miller & Lux during the year 1908? By "the year 1908" I mean the year ending June 30, 1908?

A. Yes.

R. X Q. 40. From the complainant's canal into the Dos Palos canal, were there not?

A. There were. I don't think I quite understand that. (The last two questions read.) Yes, some were delivered to Miller & Lux through the Dos Palos canal.

(By Mr. TREADWELL:)

Q. That is not what he asked you. He asked if they were delivered to Miller & Lux, into Miller & Lux's Dos Palos canal.

A. I understood from the Dos Palos canal.

(By Mr. LANGHORNE:)

R. X Q. 41. If any waters were delivered by the canal company to Miller & Lux in the canal through or into the Dos Palos canal, where there was a measurement taken.

A. Yes sir.

R. X Q. 42. Were those waters that were delivered to Miller & Lux measured?

A. They were.

R. X Q. 43. At what point.

A. At the point of delivery from the Dos Palos canal.

R. X Q. 44. That is, they were not measured at the head of the Dos Palos canal but at those points on the Dos Palos canal where they were delivered? Is that correct?

A. That is correct.

R. X Q. 45. In regard to these measurements in 1908, the year ending June 30, 1908, of the Poso canal, are those the measurements of all the waters running at those times that were taken in the Poso canal?

A. They are.

931 R. X Q. 46. Was any water during the year ending June 30, 1908, delivered into the Poso canal for any person or corporation other than Miller & Lux?

A. There was not.

R. X Q. 47. In Exhibit 27 have you accounted for all of the water discharged from the complainant's canal into the Poso canal for the year ending June 30, 1908?

A. What is Exhibit 27?

R. X Q. 48. That is the exhibit in which you made the computation of acreage and receipts for water.

Mr. TREADWELL: Miller & Lux's irrigation.

(By Mr. LANGHORNE):

R. X Q. 49. Miller & Lux's irrigation?

A. Yes, all of the water entering the Poso canal is accounted for.

R. X Q. 50. That is, accounted for according to the system of measurement that you pursue?

A. Yes.

R. X Q. 51. Where are the waters that are carried in complainant's main canal first measured? At what point?

Q. At the point known as the first point of measurement, which is about 6000 feet below the head gate.

R. X Q. 52. That is before you get to the Poso canal, is it?

A. It is.

R. X Q. 53. Have you the measurements, or did you take measurements daily at that point of the waters running in the complainant's canal during the year ending June 30, 1908?

A. They were taken daily; either reading or gauges were taken daily.

R. X Q. 54. Have you those?

A. No.

R. X Q. 55. You haven't them with you?

A. No.

R. X Q. 56. Can you produce them? Can you get them?
A. I can.

Mr. TREADWELL: How is that cross-examination, those gauges at that point?

Mr. LANGHORNE: Well, we want to account for all the water.

R. X Q. 57. Did you take gauge readings of measure-
932 ments of the waters taken from the San Joaquin river by the Helm canal during the year ending June 30, 1908?
A. I did.
R. X Q. 58. And have you those?
—. The same answer applies. I have them, but not with me.
R. X Q. 59. Will you produce them, please.
A. Yes.
R. X. Q. 60. Did you take the gauge readings or measurements of the waters delivered through the San Joaquin river into the canal known as the River Canal during the year ending June 30, 1908?
A. Those are delivered through the Helm canal.
R. X Q. 61. Well, is there not a means of getting water into that River canal direct from the San Joaquin river without going into the Helm canal?
A. I believe not. I don't remember now how that is. At any rate, there was no special measurements taken there.
R. X Q. 62. During the year ending June 30, 1908, no measurements, no special measurement has been taken of that?
A. No.
R. X Q. 63. Well, are those waters that are discharged from the river, either though the Helm canal or otherwise into the River Canal—do they belong to the complainant canal company or to Miller & Lux?
A. I have considered that all of the land irrigated from that was irrigated by the canal company, but of the River canal, I have never made any measurement aside from the measurement at the head of the Helm canal itself.
R. X Q. 64. This River canal is how large?
A. I don't remember.
R. X Q. 65. Well, you have seen it, haven't you, Mr. Hammett?
A. I have merely seen it in going over there to the Helm ranch. I have seen that there is a canal which irrigates that land, but I have never inspected it thoroughly. I have never examined that canal. I merely know that there is a canal which delivers water to a part of the Helm ranch on the other side of the trough between the main canal and the river.
R. X Q. 66. Now is it not a fact that this river canal takes its waters directly from the San Joaquin river above the main
933 weir of complainant directly, and that it does not take its waters from the Helm canal below the weir or the measuring gauge in the Helm canal?
A. I am obliged to say I don't know.
R. X. Q. 67. You have been the engineer of Miller & Lux and the canal company for since—July, 1907?
A. Yes.

R. X Q. 68. And you have seen waters running from the river into this river canal, have you not—discharging?

A. I will explain, that I merely have never happened to take that question up. In fact that question of the river canal was first suggested to me in this trial, and I never had a special occasion to take notice of it before. I don't remember ever passing over or going from the head of the main canal to the dam, or crossing any head gate that goes into that ditch. I can't remember now.

R. X Q. 69. And you don't know how large that river canal is at its cross section.

A. No.

R. X Q. 70. At the head?

A. No.

R. X Q. 71. You didn't notice the capacity?

A. I didn't notice the capacity.

R. X Q. 72. You have never measured it?

A. I have never measured it.

R. X Q. 73. And did you ever measure the lands of Miller & Lux or anybody else irrigated by it?

A. Those lands have been measured. All the lands irrigated between the river and the main canal have been measured by my department, but the particular dividing line betwen the lands which are irrigated from that canal and from the main canal, or from the Helm canal has not been run. The total lands have been measured and are shown in this irrigation on this map.

R. X Q. 74. Does Exhibit 27 include the lands irrigated with waters from this river canal?

A. It includes the lands, yes.

R. X Q. 75. Will you please turn to Exhibit 27 and show me what lands there, what lands there include those irrigated
934 from the river canal.

A. I state in the second paragraph on the first page of the exhibit of October 9, I state that the total land of Miller & Lux irrigated from the canal was 59,912.9 acres, of which 48,926.44 acres were irrigated from the main canal and its branches. Those lands I mention are included in that 48,926.44 acres.

R. X Q. 76. Is this river canal a branch of the main canal?

A. It is not. I don't suppose it is a branch. In fact I know it is not a branch of the main canal and I can't tell whether it is a branch of the Helm canal or not.

R. X Q. 77. Well now, how many acres of Miller & Lux's land are irrigated in the year ending June 30, 1908, from these waters from this river canal?

A. I am unable to state the exact quantity, but in looking at the map I should say something like six hundred acres.

R. X Q. 78. Were any of the waters that were carried through the river canal for the year ending June 30, 1908, a part of the 760 second feet of water belonging to the canal company to be used for irrigating non-riparian lands for that year?

Mr. TREADWELL: We object to that. The question merely calls for a conclusion of the witness. You can find out if you want

to from the witness whether that water was put into the canal at times when there was only 760 feet being taken, or at times when there was more than 760 feet being taken, but you can't ask him whether it was riparian land or non-riparian land or any of those facts. You are entitled to a statement of facts, but not his conclusions.

The MASTER: (After argument.) I overrule the objection.

A. I can't tell without further investigation whether that water was put into the calculation or not; that is to say, whether any water which flowed in the irrigation ditch, showed in that calculation or whether it was overlooked, and I could not answer that question with any certainty without investigation.

935 (By Mr. LANGHORNE:)

R. X Q. 79. Then if you did not measure the waters during that year that flowed into the river canal, how can you tell whether or not those waters were a part of the 760 second feet of the canal to be used on non-riparian lands only?

Mr. TREADWELL: I submit that the witness just answered that he could not tell; therefore, you have no right to ask him how he can tell.

Mr. LANGHORNE: I object to counsel coming to the rescue of the witness. This man is put on as an expert.

The MASTER: The witness is very intelligent and I think he understands the question.

Mr. LANGHORNE: I want the record to show the interruptions of counsel. I think they are entirely uncalled for.

(Question read).

A. I am unable to tell providing they did not appear in the calculation, provided no measurements did appear; and as I say, I will have to investigate to see whether or not that did show as one of the delivery ditches or not.

R. X Q. 80. Well, then, you said a while ago that you did not know how large this river canal was, nor its capacity, and had never measured it. Is that true?

A. That is true. That I never have personally.

R. X Q. 81. Well, it is probable Mr. Hammett, that any employé of yours could have measured it during the year ending June 30, 1908, and you not know about it?

A. It is. The measurements are turned in, the measurements of every gate and every delivery of water to Miller & Lux and to other consumers are turned in on slips showing the measurement of the water and the delivery to those different customers; and I had those different slips taken up, merely, and calculated.

R. X Q. 82. Well, those different slips show the ditches or
936 canals that are measured, do they not?

A. They do. And as I say by an investigation that I made, I can tell at once whether that does appear in them or not.

R. X Q. 83. Well, will you please investigate and let us have

the measurements, if any of the river canal for the year ending June 30.

A. I will.

R. X Q. 84. Have you the measurements, Mr. Hammett, for the year ending June 30, 1908, of the waters delivered through the Dos Palos canal to Miller & Lux and to all other consumers?

A. I have.

R. X Q. 85. Can you produce them?

A. I can. I would like to mention that all these measurements are in Los Banos, are in the Los Banos office files of the canal company, and in order to produce them, I have to bring them up from there.

Mr. TREADWELL: On what ground do you claim that you are entitled to show the amount of water delivered to each consumer during that year? On what ground do you claim that it is cross-examination of this witness?

Mr. LANGHORNE: To test the correctness of this exhibit 27.

Mr. TREADWELL: Now that Exhibit 27 simply relates to the amount of water delivered to Miller & Lux?

Mr. LANGHORNE: Yes.

Mr. TREADWELL: How can it test that by showing the amount delivered to some other person?

Mr. LANGHORNE: He said he had accounted in making up the bills and so on, for all of this 760 cubic feet of water.

Mr. TREADWELL: I beg your pardon. The witness has never said anything of the kind.

Mr. LANGHORNE: At any rate it is strictly cross-examination, if your Honor please, in regard to this exhibit that is put in here, in which he has attempted to account for all these different waters.

The MASTER: (After argument). I overrule the objection.

937 (By Mr. LANGHORNE:)

R. X Q. 86. Mr. Hammett, have you the measurements of the total discharges from the complainant's canal into the Dos Palos canal for the year ending June 30, 1908?

A. I have not. There are no such measurements taken.

R. X Q. 87. At the last hearing you were requested to bring, and you said you would bring in the descriptions of Miller & Lux's cultivated lands that were irrigated for the year ending June 30, 1908. Have you got those?

A. I have a map containing them, yes. I believe it was for the purpose of indicating where they were on the map, and consequently I made a map containing those.

R. X Q. 88. Well, you didn't make that map since the last hearing?

A. I have, yes sir.

R. X Q. 89. Since the last hearing?

A. Yes sir.

R. X Q. 90. Will you please produce the maps you refer to, Mr. Hammett? (The witness produces.)

Mr. LANGHORNE: The witness produces a bound volume of maps entitled "San Joaquin and Kings River Canal & Irrigation Co., irrigation of Lands of Miller & Lux, incorporated, 1907-8, Platted by W. C. Hammett, November 12, 1908."

R X Q. 91. I will ask you, Mr. Hammett, if these maps that you now produce show the irrigation of lands of Miller & Lux referred to in Exhibit 27 as to irrigation for the year ending June 30, 1908?

A. They do. They show the total irrigation by waters of any kind, whether 760 feet or excess waters. They show the total irrigation.

R. X Q. 92. They show the total irrigation?

A. Yes.

Mr. LANGHORNE: In connection with the cross-examination of the witness and as a part thereof, defendants offer the said maps in evidence.

(Marked "Defendants' Exhibit J".)

Mr. TREADWELL: We ask that that not be withdrawn without our consent.

938 Mr. LANGHORNE: I may want to take it to my office and look over it.

R. X Q. 93. I ask you, Mr. Hammett, if this map, which contains 18 sheets, is complete, as showing all of the irrigated cultivated lands of Miller & Lux in the counties of Stanislaus, Merced and Fresno that lie under or are irrigable from the complainant's canal and works.

Mr. TREADWELL: If the court please, we object on the ground that that is not cross-examination except in so far as it refers to land irrigated by this canal. Miller & Lux may irrigate other lands there, and that is no part of the cross-examination. If you intend to mean by waters of this canal or that are taken through this canal——

Mr. LANGHORNE: I will add: "And that are irrigated with waters belonging to the complainant or that are carried through the canals of complainant for any distance for the year ending June 30 1908."

A. They contain all such lands which were irrigated during this irrigation year of 1907-8.

(By Mr. LANGHORNE:)

R. X Q. 94. Do the maps show the lands of Miller & Lux that were irrigated from the waters carried through the river canal for the year ending June 30, 1908?

A. You refer to that same canal that was mentioned earlier in the session.

R. X Q. 95. I think we called it the river canal.

A. Yes, they do contain those lands.

R. X Q. 96. I will ask you whether or not that River canal, so called, is marked on this map?

A. It is not.

R. X Q. 97. Is the Helm canal marked on this map?

A. It is not.

R. X Q. 98. Is the Poso canal marked on this map?

A. It is.

R. X Q. 99. It is not named on the map, is it?

A. It is on some of these sheets. I am not sure whether it is right through. But I will say that it is the canal nearest the river on all the maps, from Firebaugh northward.

939 R. X Q. 100. On the west side of the river?

A. On the west side of the river.

R. X Q. 101. Would you mind, for convenience, Mr. Hammett, numbering these sheets? (The witness numbers the sheets.) Now in regard to some of Miller & Lux's cultivated lands that were irrigated during the year ending June 30, 1908, with waters either belonging to the complainant canal company or that were carried by the complainant for Miller & Lux, is it not true that for a portion of that year some of those lands were irrigated with waters from other sources, such for instance as Poso Slough, or Temple Slough?

A. It is true.

R. X Q. 102. Well, will you please indicate on which of these sheets of Exhibit J, those lands are?

Mr. TREADWELL: We object to that as not cross-examination. The witness is here asked, and we will suppose properly, to state what particular lands Miller & Lux irrigated from this canal. I think he has done that and he has done that fully. Now counsel is asking him if there is not some of that land or some other land —I don't know which—of Miller & Lux's which they irrigate from some other source than the waters of this canal. Now, if they did that, it would not show that his testimony is not correct. It will not explain it, it will not change it, it will not effect it in any way, shape or manner, and as an original proposition, it is entirely irrelevant to the case.

Mr. LANGHORNE: (After argument.) I will ask him just this question.

R. X Q. 103. Wherever during the year ending June 30, 1908, lands of Miller & Lux were irrigated both from waters belonging to complainant and carried through its canals, and by waters from other sources, I understand you to say that in this Exhibit 27 you have charged Miller & Lux, and in favor of the canal company, for such lands, during the year. Is that right?

940 A. That is right.

R. X Q. 104. Now then, this Exhibit J does not show any of the lands of Miller & Lux on the east side of the San Joaquin river does it?

A. It does not.

R. X Q. 105. Nor any lands irrigated from the Columbia canal?

A. It does not.

R. X Q. 106. I understood you—I think you have already stated that this exhibit 27 did not contain or have reference to any lands irrigated on the east side of the San Joaquin river.

A. That is correct.

R. X Q. 107. You testified the other day, Mr. Hammett, in regard to certain lands belonging to Miller & Lux that were watered by this so-called waste, or surplus water, from the complainant's canal. Will you please look at this map and say whether any of those lands are colored or shown on this map in any way?

A. They are not.

R. X Q. 108. But on these sheets of this map, they adjoin some of these colored portions, do they?

A. In some cases they do. They are not on all those sheets, at all.

R. X Q. 109. That is, these sheets do not include all of Miller & Lux's lands on the west side of the San Joaquin river and north of the Fresno Slough?

A. They do not. They only include those parts which contain cultivated lands irrigated from the San Joaquin canal and its branches.

R. X Q. 110. And then the uncultivated or grass lands of Miller & Lux are not colored on this map?

A. Not the wild grass lands. The other grass lands, the grazing lands aside from wild grass lands are colored.

R. X Q. 111. What color is that?

A. They are shown in all of the colors, according to whether they are riparian or non-riparian, and irrigated for one or two crops.

R. X Q. 112. Do you call alfalfa land grass land?

941 A. No, but we have a regular crop which is called grass; that is, fox-tail, or degenerated alfalfa which fills the fields which are not sown by alfalfa but which have been cultivated and afterwards turned into grazing lands. Those pay the regular cultivation rates.

R. X Q. 113. If they are irrigated?

A. Yes.

R. X Q. 114. Have you anything which I asked you to produce to-day which I have not referred to?

A. I think not. The only things you asked me to produce were the irrigated land of Miller & Lux, the riparian land and the non-riparian land and the Poso intakes over and above the ones which I had before.

Mr. LANGHORNE: For the present, until these other matters are produced, I cannot go on any further.

(Further hearing continued to Monday, November 16, 1908, at 2 p. m.)

942 THURSDAY, *November* 19, 1908—2 p. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Eq.

Recross-examination of W. C. HAMMETT, resumed.

By Mr. LANGHORNE:

R. X Q. 115. Mr. Hammett, will you please take the maps Exhibit J. What is the scale used in the maps, Exhibit J.

A. Thirty chains to the inch.

R. X Q. 116. 1980 feet, isn't it?

A. Yes.

R. X Q. 117. Does Exhibit J. show by its colored parts any lands irrigated for the year ending June 30, 1908 that are not shown and charged for in Exhibit 27?

A. Only where the actual acres are given in pencil marks on these maps What I meant is, there are places wherein you see described as being in such and such a section or such and such a field, but the whole of that section or the whole of that field was not irrigated, and I was not able to determine the exact boundaries of what was irrigated, and consequently I colored the whole section of the field and indicated by the actual number of acres how many were irrigated.

R. X Q. 118. Then all those portions of the colored parts shown on Exhibit J. that are outlined and marked in pencil? Is that right?

A. No, those which are colored, but which have a pencil number of acres on them, were only partially irrigated. The number of acres that are irrigated in pencil are the number that are irrigated in that particular section or field.

R. X Q. 119. And then where you have marked the acres in pencil, as I understand it, such marking indicates the acres that are irrigated and that are shown in your Exhibit 27?

A. Yes.

R. X Q. 120. On page 1 of Exhibit J. are there any lands
943 colored that are not charged for in Exhibit 27?

A. There are not.

R. X Q. 21. How about page 2?

A. Yes, there are a portion of the lands known as the bank lands in Township 8, range 9 east, which are colored on this map, but which are not irrigated; the total number of acres which are irrigated being 560.

R. X Q. 122. Do you mean to say those figures "560A" which are written on a part of the map colored purple? Do you mean by that that all of that portion that is colored purple amounts to 560 acres?

A. No, that the portion of that tract of land marked purple which was irrigated amounts to 560 acres.

R. X Q. 123. So there would be a portion of that piece that is colored purple on page 2 which was not irrigated and is not included in exhibit 27?

A. That is it.

R. X Q. 124. As to page 3 it appears that there is one piece colored purple, and right across the railroad track another piece colored blue, and that you have written across both pieces "100A". Do you mean in regard to both of those pieces I have mentioned that only one 100-acre piece of both together were irrigated and are charged for in Exhibit 27?

A. That is correct. I mean to say that there were 100 acres in section 3, township 9, south, range 9 east, which were irrigated. And the fact is they should both be colored the same color, but owing to the foreign coloring in the brush, the man who did the coloring colored them slightly different in shade.

R. X Q. 125. What color should both be?

A. Purple or blue; whichever they call it.

R. X Q. 126. It means non-riparian lands, does it?

A. It means non-riparian lands irrigated for one crop.

R. X Q. 127. All the colored lands on page 4 of Exhibit J were irrigated and included in Exhibit 27, were they?

A. That is correct.

R. X Q. 128. On page 5 there is a tract colored green
944 marked "85A", and of that tract so marked 85 acres was irrigated, included in Exhibit 27?

A. Correct.

R. X Q. 129. On page 6, Exhibit J there is a tract colored purple or blue, marked "270 acres," and of that tract 270 acres were irrigated and included in Exhibit 27?

A. Correct.

R. X Q. 130. On page 7 there is a yellow tract and a purple tract which seem to be marked together, "400 acres". Does that marking apply to both of those tracts?

A. It applies to both of them; that is, the whole of section 14.

R. X Q. 131. Well now, what part of the two tracts you have last referred to, marked "400 acres" was riparian lands, irrigated for one crop?

A. I took them in the proportion as the riparian bears to the non-riparian in the whole section.

R. X Q. 132. What was that proportion?

A. As 200 is to 640.

R. X Q. 133. Then how much was the riparian land irrigated for one crop?

A. 125 acres of riparian land and 275 of non-riparian land.

R. X Q. 134. On page 8 there is marked in pencil "80 acres" on a field and right next to it seems to be a field of the same purple color. There are apparently two subdivisions adjoining, in the purple color. How is that?

A. One is known as New Weir Field 4 and the other is known as New Weir Field 5.

R. X Q. 135. To which does the 80 acres refer? The pencil mark "80 acres"?

A. To New Weir Field 5.

R. X Q. 136. And not to the other one?

A. No.

R. X Q. 137. On page 10 there is a quarter section apparently marked "50 acres," but it is divided by a road or a creek. Are both subdivisions marked "50 acres"?

A. No; that "50 acres" refers to lot 3, section 1, township 11 south, range 10 east, and that is the main canal which divides the quarter section.

R. X Q 138. Then you mean that the 50 acres of the part which is south of the canal are irrigated and charged for in Ex-
945 hibit 27

A. Yes; 50 acres of lot 3 shown on the map.

R. X Q. 139. On page 11 there is a purple subdivision marked "400 acres," and right next to it another purple subdivision, right to the west of it there is another purple subdivision. I will ask you whether the mark "400 acres" refers to the westerly subdivision.

A. No, it refers only to section 34.

R. X Q. 140. And on the same page there is a green tract marked "60 acres." Does that refer to the green section above it and below it?

A. No, it refers to lot 4, section 19.

R. X Q. 141. On page 12 is written in pencil "25 acres" across a number of subdivisions. I will ask you what particular land those figures refer to.

A. They refer to the parts of sections 25, 26, 27, 34, 35 and 36 south of the railroad track.

R. X Q. 142. But it does not take in the land colored in the same way that is in section 28 and 21?

A. No.

R. X Q. 144. Are there any pencil acre marks on page 13?

A. I don't see any.

R. X Q. *144*. On page 17 there is a pencil mark "250 acres." Is that intended to apply to what is marked "Buck Field" only?

A. Yes, it was the part of the buck field which was irrigated.

R. X Q. 145. And it does not apply to any of the yellow colored portions adjoining that subdivision?

A. It does not.

R. X Q. 146. Those other fields being marked "P. F 7" "P. F. 8" "P. F. 9" "P. F. 10" "P. F. 11" "P. F. 12" "P. F. 13" "P. F. 14" "P. F. 15" "P. F. 16" "P. F. 17"?

A. No, it applies only to the Buck field.

R. X Q. 147. And on the same page there is a pencil mark "23 acres." Does that apply only to the tract marked "P. F. 28"?

A. That only applies to that lot, "P. F. 28."

R. X Q. 148. On page 18 there is a tract marked "160 acres." Will you please state how much of that part painted yellow that mark applies to?

946 A. It applies to the field marked "H. P. 5" only.

R. X Q. 149. Well, what are the boundaries of the field marked "H. P. 5"?

A. They are clearly shown.

R. X Q. 150. That "H. P. 5" is the middle portion, then, which is bounded on the north by the — place? Mark the boundaries in pencil.

Mr. TREADWELL: I object to that map being marked up. I object to its being tampered with.

Mr. LANGHORNE: It is impossible to tell from the witness' testimony. It was only by accident that I discovered this. I was asking for lands irrigated by Miller & Lux for that year. Those are not marked so that I can tell I simply ask him to take his pencil and mark it so that we can know what it is. The map does not show.

Mr. TREADWELL: I object to counsel's stating that this map represents something which it does not purport to represent. It represents the land of Miller & Lux that was irrigated, and where there is any particular lot here that is marked as irrigated, the lines will show what was irrigated.

The MASTER: The boundaries seem to be marked clearly.

(By Mr. LANGHORNE:)

R. X Q. 151. Just please define the boundary lines of that tract to which the 160 acre mark applies.

A. It is the full line running from the westernmost corner of field No. H. P. 3, which field is colored red; running thence in a northwesterly direction through section 12; into section 1; thence turning in a westerly direction and running to the intersection of the three fields H. P. 2, H. P. 1 and H. P. 5; said boundary being marked not only by a full line, but by a heavy yellow line before being colored. No, I will change that: Across the head of the line in the Northern part of section 12, instead of section 1. I would like to state this: that all these fields which are specified are marked first with a heavy pencil line of the same color as they are afterwards
947 colored, before being colored; so that there need be no question about the boundaries of the parcels of land to which the numbers referred.

R. X Q. 152. Now what portion of that field to which that 160 acre mark applied was riparian land of Miller & Lux, irrigated for one crop?

A. All of the 160 acres were Miller & Lux's riparian land irrigated for one crop.

R. X Q. 153. Where is the 163 acres in that lot of land, that you have marked it on?

A. From personal knowledge I know it is along the eastern side of it.

R. X Q. 154. You stated, Mr. Hammett, that all of the land of Miller & Lux that was irrigated for the year ending June 30, 1908, was measured. Now will you pease indicate there where that 160 acres was? Is it delineated on that map?

A. No I can't delineate it on that map.

R. X Q. 155. Why?

A. Because I have not a survey here. I did not say it had been surveyed. It has not been surveyed or tied to particular corners or anything. It has been measured as to lots, as all lots are measured to show their irrigation. But that does not necessarily state that a survey of that land is in our possession so that we can plat it on that map.

R. X Q. 156. How did you measure it?

A. I didn't measure it on the ground. It was measured the same way as all lands are measured in the San Joaquin, by taking particular measurements of the size of the land and calculating the acreage therefrom.

R. X Q. 157. Can you indicate then, on any of these maps, where you give this pencil mark, can you locate the land that was irrigated for the year ending June 30, 1908, upon these maps?

A. No I cannot here.

R. X Q. 158. Where could you do it if you can't do it here?

948 A. I could not do it all from data that we have. I could only do it by means of a survey.

R. X Q. 159. You were asked to bring in an exhibit or map of the lands of Miller & Lux that were irrigated by the complainant's canal, by the waters from complainant's canal, during the year ending June 30, 1907; and I will ask you why, in making out the Exhibit J you have in some instances shown tracts which you say were not irrigated?

A. I think I explained it very clearly before, but I would say again: because we know that so many acres were irrigated in certain fields or certain sections of land, but we are unable to put on that map accurately the boundaries of those particular pieces which were irrigated; and therefore I indicate them in the best manner in which it could possibly be done under the circumstances.

R. X Q. 160. How did you arrive in regard to that sheet, that last sheet which I was talking about, page 18, at the fact that exactly 160 acres were irrigated for that year in that field?

A. I presume that was the way they did it, the way that it is usual to do it, simply taking ordinates across the pieces of ground irrigated and multiplying by the abscissa between the ordinate lines and calculating thereby the number of feet surface or the number of acres surface.

R. X Q. 161. Well if they take the ordinates they take them on the land do they?

A. They take them on the land.

R. X Q. 162. And they know where the land is?

A. They know there the land is and I know where the land is, but because I know where the land is it does not signify that we can put down the particular boundaries on the map.

R. X Q. 163. You did not take the ordinates yourself did you?

A. I did not.

R. X Q. 164. You made that sheet 18 of that exhibit, then, from the report of someone else?

949 A. From the report of the canal superintendent.

R. X Q. 165. And that report did not show what particular portion of that field that contained the 160 acres, was irrigated?

A. It did not.

R. X Q 166. It just contained an estimate of 160 acres in that field?

A. I would not say an estimate, because I believe it is not custom-

ary—in fact, I know it is not customary with the canal company to make estimates, either in the case of Miller & Lux or consumers.

R. X Q. 167. Have you the measurements of the waters flowing in the complainant's canal during the year ending June 30, 1908?

A. I have.

R. X Q. 168. Will you please read them?

A. Do you wish them read day by day, for each day.

R. X Q. 169. How many are there?

A. 365 on the main canal, besides the water taken in from the other sources, namely, the Helm Canal. I have also the summation.

R. X Q. 170. Have you the measurements of the main canal and also the Helm canal for the year ending June 30, 1908?

A. I have. (Producing.)

Mr. LANGHORNE: In connection with the cross-examination of the witness I offer in evidence this paper which he has produced. As I understand the witness wants to use it I ask that the reporter copy it into the record.

(Marked: "Defendants' Exhibit K.")

Mr. LANGHORNE: Including the summaries attached thereto.

R. X Q. 171. You have attached to that exhibit what I understand are summaries of these measurements?

A. Yes, it is the summation of each month, the total amount of water flowing for 24 hours of each month, and the summation of all these totals by month.

R. X Q. 172. Mr. Hammett in regard to Exhibit K, these
950 figures, for instance, taking the first figures, on the first page of Exhibit K, you have at the head of the first column of figures, "main Canal at 1st point." What is that first point? Where is that first point?

A. That refers to the first point of measurement given in my previous testimony.

R. X Q. 173. Something about 6134 feet from the headgate?

A. I believe that is the distance.

R. X Q. 174. These first figures in that first column of Exhibit K, under the words "main Canal at 1st point," the figures 1188.59, what are they? What do they mean?

A. They are the second feet flowing for 24 hours at the point mentioned.

R. X Q. 175. How many?

A. As written, 1188.59.

R. X Q. 176. Then in the second column, "Helm Canal," the first figures, 6480, is that 64.80 second feet?

A. It is, flowing for 24 hours.

R. X Q. 177. And that method of reading those figures in that Exhibit is true throughout, is it?

A. It is.

R. X Q. 178. At what point on the Helm Canal were these measurements taken?

A. At the discharge gate from the Helm Canal into the main canal.

R. X Q. 179. That is how far from the headgate of the Helm Canal.

A. About three miles.

R. X Q. 180. I notice on the second page of Exhibit K under the head of "Helm Canal" you have marked after "September 24," water turned out." What do you mean by that, Mr. Hammett?

A. That no water was received from that date on until the next entry.

R. X Q. 181. The next entry, according to this, would appear to be on the 20th of January, 1908. Is that correct?

A. That is correct.

R. X Q. 182. And other places on Exhibit K where no readings are given and where it is not indicated that water was
951 turned out, do they mean that no measurements were taken, that water was flowing but that no measurements were taken on these dates?

A. That is what they mean.

R. X Q. 183. On page 3 of Exhibit K you have in places the expression "water backed up". What is that?

A. The fact is that measurements are taken at intervals of about a week, and between that time the gauges are read and the discharges are interpolated between meter readings. Between the date of the meter reading where it shows "water backed up" or where doors were changed in one of the supply gates, which would make the gauge readings such as to be useless for interpolation purposes.

R. X Q. 184. That does not mean that water was not flowing at those times?

A. Oh, no, water flowed during those times but the gauge readings were useless for interpolation.

R. X Q. 185. In making up what you call your summings of monthly flows how do you arrive at or calculate the water for those periods where you have marked it "water backed up"?

A. I assumed a uniform flow between the two measurements; that is, I took the average between the measurements and applied it to each day on which there was no measurement.

R. X Q. 186. And is that the way you did also in those cases where no measurements are given?

A. Yes.

(By Mr. TREADWELL:)

Q. You mean where you have marked it "water turned out?"

A. Of course I refer to places where I stated that water was flowing, but no measurements taken.

(By Mr. LANGHORNE:)

R. X Q. 187. Have you the measurements of the waters delivered from the Dos Palos Canal to Miller & Lux and the other consumers for the year ending June 30, 1908?

A. I have.

R. X Q. 188. Let me see them please? (The witness produces.) These have not been tabulated have they?

A. They have not.

Mr. TREADWELL: I would like to ask the witness a ques-
952 tion in regard to this. I don't know what the fact is.

Q. Mr. Hammett, in making up your Exhibit 27 in regard to Miller & Lux's irrigation did you or did you not use these measurements that you have now produced showing the amount of water delivered to these various consumers?

A. I used the measurements of water delivered to Miller & Lux, and none of the measurements of water delivered to consumers.

Q. Other than those?

A. Other than Miller & Lux.

(By Mr. LANGHORNE:)

R. X Q. 189. Mr. Hammett, in regard to those Miller & Lux measurements through the Dos Palos Canal, have you a table by which you can calculate the amount of water from these measurements shown on these slips?

A. We have a table, but any Engineer will calculate them without a table.

R. X Q. 190. You have a table?

A. We have a table, yes. We have a table for ease of calculation, but it is not necessary.

R. X Q. 191. Did you make a calculation of the amount of water from these slips?

A. You will find on the back of each slip the calculation made.

(Mr. LANGHORNE:) We offer these in evidence. We offer the Miller & Lux measurements of water furnished to Miller & Lux through the Dos Palos Canal, and ask that it be marked "Defendant's Exhibit L"; and also those to customers other than Miller & Lux, through the Dos Palos Canal, and ask that they be marked "Defendant's Exhibit M." (So marked.)

Mr. TREADWELL: We object to Exhibit M, if the Court please. It does not appear that this witness made any part of these measurements. They are not his measurements. He does not vouch for them. He does, however, state that he used the measurements that have been introduced in evidence and shown in Exhibit L in making his calculations, and therefore I must submit to their introduction in evidence, although I am satisfied that there is an
953 ulterior object in asking for them. But it is cross-examination. But the other is not cross-examination. I don't know what the object is in offering them. I object to them because it is not cross-examination. And as original evidence it is not admissible because the witness has testified that he did not make those measurements.

Mr. LANGHORNE: We want to account for all the water. We are entitled to account for all the water taken by the Dos Palos canal, because it appears that some of the water delivered to Miller & Lux is what is known as non-riparian excess water, for which they do not pay according to acreage. And we have a right to test the testimony which has been introduced here, and the only way we can do it is by getting all the water.

Mr. TREADWELL: I submit that he can only do that by getting competent evidence on that matter. The witness has not testified about it. He said he didn't know anything about it.

The MASTER: That is the portion of the objection that strikes me with the most force.

(By Mr. LANGHORNE:)

R. X Q. 193. (After argument.) In what way did you make up your estimate and calculations of the amount of water carried through the Dos Palos canal to Miller & Lux?

A. The same as the rest of the canal; by using all the water delivered to Miller & Lux; the measurements on the slips in the first package.

(By the MASTER:)

Q. Exhibit L?

A. Yes.

(By Mr. LANGHORNE:)

R. X Q. 194. And you did not take into consideration at all, or separate those waters with reference to waters furnished to other consumers?

A. I did not. In no part of that calculation was the water to other consumers considered.

R. X Q. 195. And there was no measurement at the head
954 of the Dos Palos canal, but these waters were measured at the dieffrent ditches of Milelr & Lux leading out of the Dos Palos canal?

A. Exactly.

Mr. LANGHORNE: I think in view of that I have no desire to encumber the record. I withdraw the offer.

R. X Q. 196. Now can you indicate on Exhibit J, those maps, the lands of Miller & Lux that were irrigated for the year ending June 30, 1908, with the so-called excess waters carried for them by the complainant's canal, and which are mentioned in Exhibit 27?

A. They are all a portion—the proportional part of those which are colored on the map.

R. X Q. 197. Can you point out any particular part or tract of those lands as being watered by such excess waters during that year?

A. I can say as to each tract, that such and such a proportion of that tract was irrigated by water carried on account of the canal company, and a certain other proportion by water carried for account of Miller & Lux.

R. X Q. 198. Then it is by proportions only that you arrive at that?

A. I think in my whole statement in regard to the way that bill was made out, I have stated that.

R. X Q. 199. And there is no particular parcel or part of the tracts of land on Exhibit J, is there, that you can indicate as being

watered solely for the year ending June 30, 1908, with these excess waters which you have charged for in Exhibit 27?

A. I will say in regard to that, that considering the explanation that I have made of the way that bill was made out, and the way those proportions were made out, that any consideration of separating them into the particular parts that were irrigated by one kind of water or another, and saying that the lands through here, part of it was irrigated by excess waters and part of it by Miller & Lux's water, would be foolishness.

R. X Q. 200. At what time or times of the year ending June
955 30, 1908, were these excess waters mentioned in Exhibit 27 carried in complainant's canal?

Mr. TREADWELL: Let me suggest: we have not only done the work of making these measurements of the two canals; we have given them to you. You have all the measurements for the time the water flowed there. You have all the facts that the witness has, as near as I can find out. If you have not, let us know it.

Mr. LANGHORNE: I was trying to find out. I will change the form of my question, so that there can be no mistake about it.

R. X Q. 201. In this Exhibit 27, Mr. Hammett, you have charged for water in accordance with the acreage in some instances, but according to the distance the water was carried in the complainant's canal. You understand? I would like for you to state at what time or times in the year covered by Exhibit 27 those waters were carried in complainant's canal.

A. From July 1 to September 3, 1907, and from March 26 to June 30, 1908.

(By Mr. TREADWELL:)

Q. Do you mean between those times, or continually?

A. Continually.

(By Mr. LANGHORNE:)

R. X Q. 202. Now then, did the complainant's canal carry any waters claimed to be owned by Miller & Lux and for which carriage charge you have made a charge in Exhibit 27, at any time in the year ending June 30, 1908, when the complainant's canal was taking in from the San Joaquin river or from any other sources it may have had, less than 760 second feet of water?

A. It did not.

R. X Q. 203. Including the charge you made in Exhibit 27 for the carrying by complainant's canal of water for Miller & Lux, did you estimate or allow anything for seepage or evaporation?

A. Including the water carried for Miller & Lux?

R. X Q. 204. Yes sir.

A. The water carried for Miller & Lux, and for which acreage charge only was made, was based on the amount taken in.

956 R. X Q. 205. I thought you had testified to that before, but I was not quite sure.

A. Yes.

R. X Q. 206. Now at the last hearing you said you would investi-

gate and see whether or not the waters from the River canal for the year ending June 30, 1908 were a part of the 760 second feet of the canal company's water to be used on non-riparian lands. Have you made that investigation?

A. I have. I found that such measurements did not enter into the calculation.

R. X Q. 207. I understood you to say the other day that no measurements were made of this River canal of the Water flowing into it.

A. I am not able to find any in the files.

R. X Q. 208. Have you found out whether or not the waters which are taken into this River canal are taken in from the Helm canal or from the river?

A. They are taken in through the wing wall of the Helm headgate; consequently from the river.

R. X Q. 209. From the river?

A. Yes.

R. X Q. 210. And no measurement of them has been taken, has it?

A. No, not to my knowledge.

R. X Q. 211. Then as I understand it, these waters that were delivered into the Helm canal are claimed to be owned by Miller & Lux alone, are they not?

A. Not in these canals. I did not so consider them in the calculation. In the calculation I used the land irrigated from those waters and took the proportional amount of that for which irrigation was payable.

R. X Q. 212. Although there were no measurements taken?

A. Although no measurements were taken of the water used on it, the land was paid for.

R. X Q. 213. Although you were unable to tell whether or not for the year ending June 30, 1908, any of the waters of the River canal were a part of the 760 second feet which the canal company
957 was entitled to use on non-riparian lands?

A. We used the Helm land just the same.

R. X Q. 214. On page 6 of Exhibit 27, through what canals was the water carried other than to Miller & Lux on the Colony farm?

A. A portion through the Poso canal and a portion through the Colony canal at the end of Branch 2.

R. X Q. 215. Branch 2 of what?

A. Of the Colony canal.

R. X Q. 216. You mean the Dos Palos canal?

A. Yes, the Dos Palos canal.

R. X Q. 217. This 109 acres you have there in regard to the Colony farm, that is in Fresno county, is it not? It is marked here in Fresno county.

A. Yes, that is right.

R. X Q. 218. Was that carried to the Poso canal only?

A. Yes, that was carried to the Poso canal only.

R. X Q. 219. Now then, the other water carried there at that farm was, you say, carried 23 miles. Was that carried to the Dos Palos and down the Dos Palos?

A. Yes, to the end of branch 2.

R. X Q. 220. Is that all the distance?—23 miles?

A. 23 miles is the correct distance.

R. X Q. 221. How far is it from where the Helm canal enters the main canal, down to the Dos Palos canal?

A. Well, less than 10 miles.

R. X Q. 222. Then the other distance is down the Dos Palos?

A. Yes.

R. X Q. 223. Now then, in the Dos Palos farm in Merced county—that water that was carried and delivered in Fresno was only carried to the Poso canal?

A. Yes.

R. X Q. 224. Do you know what sections that was used on?

A. It was used in irrigating the Parson place; referring to page 16, Exhibit J. That is, a portion of sections 1, 2, 3, 11 and 12, township 12 south, range 13 east, and sections 34, 35 and 36 of township 11 south, range 13 east, referred to on pages 13
958 and 16 of Exhibit J.

R. X Q. 226. Is not that Parson place south of the railroad track?

A. No, it is northeast of the railroad track.

R. X Q. 227. Now on the same page 6 of Exhibit 27, "Water carried to Dos Palos farm, 1679.70 second feet carried 17 miles." Through what canals was that carried, Mr. Hammett?

A. Through the Main canal, only delivered to the Gable place.

R. X Q. 228. Where is that? On which sheet of Exhibit J is that?

A. On sheet 12.

R. X Q. 229. Sections 19 and 18?

A. Sections 18, 19, 20 and 21, and parts of the adjoining ones.

R. X Q. 230. In Exhibit 27, if you will turn to that last page, I will ask you whether or not the $825.17 acreage charge for water is included in the total figures of your last column, $50,316.36?

A. No, it is not.

R. X Q. 231. Well, you don't make that clear, do you, Mr. Hammett, in this Exhibit 27?

A. Yes, I think I do. In that last page that you refer to it is merely an explanation of the differences between my report of October 9 and my report of October 30; and I think that is made very clear by the explanation.

R. X Q. 232. I will ask you, the total acres shown on the last page of Exhibit 27, in the figures 44821.25 were intended by you to mean, I suppose, the total acres of Miller & Lux that were paid for by the acre, were they not, and did not include about 14,000 acres for which carriage charge was made?

A. That is correct.

Mr. LANGHORNE: I have no further questions to ask Mr. Hammett.

959 Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Langhorne has asked several times in regard to the irrigation on the east side of the San Joaquin river. I will ask you if the complainant's canal company has any canals or works for the irrigation of land upon the San Joaquin river, on the east side of the San Joaquin river?

A. It has not.

R. D. Q. 2. And can any canals which you have testified to be used for the irrigation of the lands on the east side?

A. They cannot.

R. D. Q. 3. The Columbia canal has been referred to. That does not apply in any way to the complainant here?

A. No.

R. D. Q. 4. In referring to the several waste gates the first one is the Firebaugh waste. Where does that waste take its water? Where does it conduct its water?

A. Into the river.

R. D. Q. 5. That water, then, is not used by anybody after it is wasted out of its canal? It runs into the river?

A. No, it can't be used by any one.

R. D. Q. 6. And the last waste, I believe, is the Orestimba waste?

A. Yes.

R. D. Q. 7. Where does that water go to?

A. It flows through a regular defined creek toward the river. I suppose it can be used from that creek by other consumers.

R. D. Q. 8. Does it go through the lands of Miller & Lux?

A. It does not.

R. D. Q. 9. Is it used by the lands of Miller & Lux or the waters that are wasted into it, for irrigation?

A. No.

R. D. Q. 10. Are there any colonies or towns built up along the line of these canals?

A. Yes.

R. D. Q. 11. What are their names?

A. There is Firebaugh, Los Banos, and the Volta colony; the Dos Palos colony is on the line of the Dos Palos system; and Ingomar and Gustine and Newman and Crow's Landing.

960 R. D. Q. 12. Is the Los Banos an incorporated city or town?

A. Yes.

R. D. Q. 13. Is Dos Palos?

A. Dos Palos is not.

R. D. Q. 14. Is Newman?

A. Newman is.

R. D. Q. 15. You have stated that a great many laterals are connected with this canal running through the lands of various irrigators.

A. Yes.

R. D. Q. 16. Have you got the approximate length of those laterals?

A. Yes, I have the sum of all the ditches from the canal system.

R. D. Q. 17. About how much do they amount to?

A. Do you want them altogether?

R. D. Q. 18. Yes, you can give the total of them.

A. About 600 miles.

R. D. Q. 19. At 10 cents a cubic yard, on an average, how much would those laterals cost?

A. They will average about 2700 cubic yards per mile, which would make them average $270 per mile, which would make them cost $162,000.

R. D. Q. 20. In giving the certain discharges you had certain dates with no measurement of the water of the ditches into the waste gates, and you stated that you arrived at that on those dates by taking the average of the first and last measurements that were taken and applying that to the intervening number of those. Is that correct?

A. Didn't you say at the waste gates?

R. D. Q. 21. Wasn't it with regard to the waste gates?

A. Well, I don't think I made any such statement as to the waste gates.

R. D. Q. 22. Where were those measurements—what measurements were those where that occurred?

A. Those were measurements into the canal at the first point of measurement, and into the Helm canal, and I also made the same statement, I think, in regard to the Poso canal, in my previous testimony.

961 R. D. Q. —. Yes. Well now, during that time would the gate remain the same, or between the periods of those measurements, between the dates that those measurements were taken; or how would that be?

A. Yes, the gate would be the same. If there had been any change of the gate, then there would have been a measurement taken.

R. D. Q. 24. And what would be the only thing that would make a material change in the amount of water taken in there?

A. Well, any extraordinary rise or fall in the level of the water in the canal.

R. D. Q. 25. If the level of the water in the canal stood substantially the same, the amount flowing into that gate would be also substantially the same?

A. That would be the same, because the gate would have the same opening.

R. D. Q. 26. On pages 512 and 513 of your testimony you were asked these questions:

Q. You gave some figures here, Mr. Hammett, as to what you gave as your opinion as to what might be termed the average life of structures in these canals. I would ask you if that meant the life of them while being used and properly used, being taken care of during that period?

A. Not exactly. I would consider that that would be the life of

a structure. Of course proper care is to be taken of a structure anyway. But it means without any repairs being made on it; the actual life of a structure doing its duty.

Q. Well, what I mean is, while the canal is being used. There are things that have to be repaired now and then, not talking about replacements, but breaks and ordinary things of that kind, in order to keep it going.

A. With those replacements, with those repairs, the structures would probably last a great deal longer than the life given in my previous estimate. I should say that in a general case, by making repairs right along, the life could be indefinitely prolonged.

—. That may be plain, Mr. Hammett, but it is not entirely plain to me, exactly what you mean. Now with regard to that you gave a certain length of life which you stated was a fair average length of life of the structures of this canal. Now of course, if one of those structures was replaced with a new one, it would last forever, in that sense. It would be really a new one taking its place. But what I wanted to get at was exactly on what conditions you based that estimate. That is, how was it being used and what care was to be used in taking care of it in order to produce that result?

962 A. Well, of course, ordinary care would have to be taken of it to produce the results that I have mentioned, that is, to give it the 33 years of life that I consider a structure ought to have. It could not be mishandled. But what I meant by saying it could be made to last indefinetly, was that if reinforcements were made on it—that is, if a part of it started to wear out; say some of the rafters started to wear out or to rot, we would put in new rafters; and if the wing sills rotted out we would put in new wing sills; and if we did that it would be like continually putting on new parts, replacing it piece by piece.

R. D. Q. 27. Yes, but would that be the same thing, Mr. Hammett, if it all stood together for 33 years, and no part gave out any faster than the other, but they all would stand until you had to replace it with a new structure, it would only have a life of 33 years, would it?

A. Yes.

R. D. Q. 28. Then what you mean is that if one board gives out one year and another board gives out another year, and you keep on replacing them until you get them all replaced, of course you extend the life of the structure by practically building a new one?

A. Yes, but to make it last 33 years, ordinary care would have to be taken of it.

R. D. Q. 29. So I understand. And I want counsel and the court to understand it. And if I do understand you, this life that you give to a structure, of 33 years, simply means that it would live that long only if ordinary care were taken and ordinary repairs made on it as it went along, irrespective of any replacement?

A. Yes; that only ordinary repairs would have to be done on it, like painting—the painting of a house, for instance.

R. D. Q. 30. Now in this Exhibit 27 as corrected by your communication of the 2nd of November, there was a difference in

963 acreage, as I understand it, of 111.75 acres between your two reports on that subject, and a difference in money of $243.03. Is that correct?

A. Yes.

R. D. Q. 31. And that made a slight difference in the number of acres as the total number of acres irrigated by the canal company as shown by the testimony of Mr. Merritt and as set forth in Exhibit 20? That is correct, is it?

A. That is correct, yes.

R. D. Q. 32. And have you now made a corrected statement of Exhibit 20, simply correcting in 1908 the number of acres under each of the canals when they ceased to distribute to that 111.75 acres?

A. That is right. I have made that correction. (Producing.)

R. D. Q. 33. Is this the corrected statement showing that?

A. That is the corrected statement.

Mr. TREADWELL: I offer that in evidence.

Mr. LANGHORNE: We object to it as incompetent, irrelevant and immaterial.

The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

(Marked: "Complainant's Exhibit No. 28".)

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. Mr. Hammett, in regard to this 600 miles of lateral lines you were asked about, none of those, lateral lines belong to this canal company, do they?

A. I believe not.

Mr. TREADWELL: We admit that they do not.

Mr. LANGHORNE: I move to strike out the testimony in regard to lateral lines, on the ground that it is irrelevant.

Mr. TREADWELL: The only object of that testimony, your Honor, is in connection with our claim that some allowance should be made to the company by reason of the fact that it is a going concern, that it has consumers, and that it has expended large sums of 964 money which any other person putting that out would have to spend or have the farmers spend; and that that should be considered, in some way, at any rate, in arriving at the value of this property.

The MASTER: Under the rule of evidence adopted at the commencement of these proceedings, if there is any question about the admissibility of testimony it is safer to admit the testimony under the objection, and let it be passed on by the court. I deny the motion.

Mr. LANGHORNE: We take an exception.

R. X Q. 2. Your testimony with reference to the repairs of structures amounts simply to this, does it not, Mr. Hammett, that if you repair, for instance, a weir or a bridge across this canal continually,

and keep it in good repair, that that weir or bridge will be in that particular place where it was constructed, permanently, many more years than if it was not repaired at all? Is that correct?

A. Not exactly. That was not what I meant. Take the comparison between the weir and the house, for instance. If you replace the various parts of a house, if you replace it piece by piece, the parts of the house as fast as they wear out—if the sills wear out and you put in new sills, and so on, you can make that house last forever, naturally, because you are replacing it part by part. But there are certain things that must be done to make it last an ordinary length of time. For instance, it must be painted every so often to keep it in good repair. That is what I mean in regard to any canal structure; that ordinary repairs are necessary to keep it up right along, by putting a few nails in here and there, when things get weak; but the ordinary maintenance repairs do not tend to prolong the life of the structure beyond the 33 years. But replacements of any part of that weir as a whole would tend to extend its life.

R. X Q. 3. Can you describe the lowest point along any of
965 complainant's canals where the excess water mentioned in Exhibit 27 was taken?

A. I think that none was taken beyond Los Banos creek.

R. X Q. 4. What is the distance from the headworks to Los Banos creek? I mean what would be the carriage distance for that?

A. The carriage distance would be——

Mr. TREADWELL: Counsel for defendants requested an itemized account in relation to moneys paid out in reference to the Borland suit for attorneys' fees, expenses and other matters, paid by complainant to Miller & Lux. We have prepared a transcript of account as shown by the books, and are willing that it should be put in evidence. We will admit that $9000 was paid by the canal company.

Mr. LANGHORNE: To Mr. Henry Miller, upon the settlement of the Borland matter, and that Miller & Lux paid nothing to Mr. Henry Miller on that settlement?

Mr. TREADWELL: Miller & Lux was not involved in that settlement, but by a later agreement which is in evidence. I have admitted that $9000 was paid by the canal company and was not paid by anybody else. I said that no money was paid—that the settlement between Miller & Lux and Borland was carried out by a different agreement, which is here in evidence; that no money was paid by Miller & Lux.

Mr. LANGHORNE: That no money was paid by Miller & Lux to Mr. Henry Miller upon the settlement of the Borland land litigation? Is that right, Mr. Treadwell?

Mr. TREADWELL: I refuse to answer any farther questions. I have put it in plain English. If you can't understand it I can. Another matter you asked about is whether the canal company is to be charged with any expense in connection with the suit brought by the California Pastoral & Agricultural Co. in the United States Circuit Court. I take it by that that counsel refers to the expenses on appeal in that case, which are the only expenses that have been testi-

fied to. I have already stated that I find that those expenses
966 on appeal, the canal company was not interested in except to the extent of the costs in the lower court, and that the bookkeeper simply continued to charge that as he had been instructed to do, without having been given any further instructions; and that Miller & Lux agreed, when it was called to their attention, to pay it all themselves, and that no charge is made against the canal company in that regard.

Mr. LANGHORNE: There was a charge there in regard to this suit in the state court, brought by the canal company, the predecessor of the complainant, against the three counties. That suit is still pending. I would like the record to show that that suit was brought by the complainant's predecessor against the counties, was brought in July, 1904, by the complainant's predecessor against the counties of Fresno, Stanislaus and Merced to have declared void and as unreasonable, and to enjoin the water rate order of Stanislaus county of June 24, 1896, and of Merced county of June 20, 1904, and of Fresno County of June 29, 1904, and that judgment for the defendants in that case was made on August 2, 1906, which was appealed from by the canal company on December 17, 1906, and the appeal is still pending the state Supreme Court, and that the suit was originally brought in the Superior Court for Fresno county; and that those water rates involved in that suit—water orders—are the same as those set up in this bill of complaint under the same dates.

Mr. TREADWELL: That correctly states the facts which I believe are already in evidence.

Mr. LANGHORNE: Defendants offer in evidence a paper entitled "Expenses in Borland Litigation," San Joaquin & Kings River Canal & Irrigation Co. et al. against Borland Land Co.

(Marked: "Defendants' Exhibit M.")

Mr. LANGHORNE: It is admitted that complainant's predecessor
967 on July 18, 1904, commenced a suit in the Superior court of Fresno county, State of California against the counties of Stanislaus, Merced and Fresno and their boards of supervisors to have declared void, as unreasonable, and to enjoin the enforcement of the water rate orders, namely, of Stanislaus, passed June 24, 1896, of Merced county passed June 20, 1904, and of Fresno county passed June 29, 1904; that judgment was given for defendant August 2, 1906; that an appeal was taken to the state supreme court on December 17, 1906, and that said suit is still pending in the state court.

Mr. TREADWELL: I understand that counsel asks these admissions simply in connection with and in explanation of the charge that is made in the accounts that have been presented for expenses in regard to that litigation, and for no other purpose?

Mr. LANGHORNE: I don't know what bearing it may have on the case. I would not want to be limited.

Mr. TREADWELL: If counsel is offering that as an estoppel in this case you had better plead it and had better bring it here and introduce it.

Mr. LANGHORNE: I have not limited the purpose of my offer.

Mr. TREADWELL: Then I will not admit anything about it.

Mr. LANGHORNE: Then we will put it in for the expense account, and so limit it.

Mr. TREADWELL: Very well.

The MASTER: Limited to the expense account?

Mr. LANGHORNE: Yes. If we desire to rely on it as an estoppel, we can.

(NOTE BY REPORTER.—The testimony of Jacob Barth, commencing on page 560, was taken pending the taking of the testimony of W. C. Hammett, on Thursday, November 19, and is inserted in the record at the close of the testimony of Hammett for convenience of reference, and at the request of the respective attorneys.)

968 Examination-in-chief of JACOB BARTH, called for complainant, sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Barth?

A. At the present time in Sausalito, but my residence is in San Francisco.

Q. 2. What is your business?

A. I am a broker in eastern and local securities.

Q. 3. How long have you been engaged in that business?

A. Personally since 1890.

Q. 4. And in a general way what does that business include?

A. We buy and sell securities for investment purposes.

Q. 5. You find investments for people?

A. We buy and sell for people; yes.

Q. 6. Are you in the conduct of that business familiar with the rates of interest say during the years 1906 and 1907?

A. I am well posted, yes, in regard to interest as well as in regard to securities such as people invest in.

Q. 7. Does the rate of interest vary on different kinds of investments?

A. It does.

Q. 8. What is the investment that you deal in, Mr. Barth, which is generally considered by investors as absolutely the safest, and therefore has the lowest rate?

Mr. LANGHORNE: We object to that on the ground that it is irrelevant to any issue in the case.

The MASTER: I overrule the objection.

Mr. LANGHORNE: Note an exception. To save time will it be understood that my objection and exception applies to all this witness' testimony?

Mr. TREADWELL: Very well.

A. I consider, of course, United States bonds the safest securities which we have got in this county.

Q. 9. And next above United States Government bonds,
969 what *what* ranks as the next safest security?

A. Municipal securities and state securities are next in rank.

Q. 10. State and municipal?

A. Yes.

Q. 11. And next above that?

A. I consider first class railroads, such as go from ocean to ocean; trunk lines.

Q. 12. Trans-continental roads?

A. Yes. Of course all these refer to first mortgages.

Q. 13. And what is the next class?

A. Then I would consider that corporation securities, local corporation securities, such as street railroads or gas companies or water companies, and so on.

Q. 14. And in that case do you also mean first mortgage bonds?

A. Always first mortgage; yes sir. Those I consider the best. And second and third mortgages sell accordingly. It is expected that a man who holds a second mortgage is entitled to a higher rate.

Q. 15. Are you acquainted with real estate mortgages, loans secured by real estate?

A. I have some experience, because I am a director of the San Francisco Savings Union, and in that capacity have some knowledge of it.

Q. 16. And how do they rank as securities—loans on real estate?

A. In this city the rates are higher now than they used to be. The banks lend money at six per cent. net, and they do it only in order to help the property owners. The banks are all interested in real estate, and they make advances to people here in order to help them along—let them have money at reasonable figures. Private loans are made at a higher rate.

Q. 17. What is about the average rate of interest on private loans, first mortgage, real estate?

A. From six to eight per cent.; savings banks from *from* five and one-half to six.

Q. 18. What is the average amount of interest on United States Government bonds?

970 A. On account of the National Banks having to buy Government bonds they have an unnatural selling price and they are selling at one and three-quarters to two and one-half per cent, all depending on what year they mature in.

Q. 19. Municipal and State bonds, what has been the average income on those?

A. It depends a great deal on how the money situation is. If money is easy, these bonds sell at four to four and three-quarters If money is in demand, from four and one-half to five per cent. It depends on the money market.

Q. 20. And about what is the average interest paid on first-class railroad securities?

A. The question is if they are local or eastern. The local bring a higher rate than the eastern on account of the eastern having a market all over the world, they bring a lower rate. First-class eastern bonds net from four to four and one-half per cent, and local, they would bring four and one-half to five per cent at the present time. Of course it depends a good deal on the money market. If money is

plentiful bonds go up. If money is tight, bonds go lower. We can't tell that.

Q. 21. Now taking the securities of other public service corporations such as street railroads, gas companies and local concerns of that kind, what do those securities demand in the way of interest?

A. Do you refer to bonds or stocks?

Q. 22. Well, just mortgage bonds.

A. Mortgage bonds, well of street railroads in San Francisco net from four and three-quarters to six per cent. It depends on what issue of bonds we refer to. And water bonds at the present time net about five and three-quarters per cent.

Q. 23. How about the stock of those concerns?

A. The stocks at the present time do not pay any dividends because the companies are not in condition to pay any; but before the earthquake the street railroad was paying five per cent, and
971 the stock was selling at from $75.00 to $90.00, dependent a great deal on conditions and times. If there was any danger of a strike, why, the securities were paying the same rate but they were down in price. The water company paid five per cent and the stock was selling at about $40.00; that is, five per cent on $50.00, but the market price was $40.00. Since the earthquake these companies have not paid any dividends at all and their securities all have gone down.

Q. 24. Now in all of the companies that you have referred to with the exception of the stock of these corporations, those are all the returns allowed upon the mere use of money secured by ample security, first mortgage bonds?

A. Yes, the company issues a bond and stipulates what rate it will bring—either four or five or six per cent bonds.

Q. 25. Now are you familiar with the amount of return that is demanded on the average by persons investing their money in enterprises such as the formation of water companies and irrigation companies and companies of that character?

A. I am only acquainted with that to a certain extent; from my information and experience that I have had, people expect, by reason of the chances they are taking, a good rate, a good return; I should judge from six to eight per cent. There would be no inducement for anybody to go into these enterprises except that they could look forward to getting about that rate of interest—six to eight per cent.

Q. 26. Well in your experience do you know any business men who are looking for investments who would be willing to invest their money in an enterprise of that kind, or who do invest their money in an enterprise of that kind unless they can get a return of somewhere between six and eight per cent?

A. I know very few people who would take those chances. That business is considered very risky and there are not many
972 people who are willing to take those chances on account of the additional one per cent profit, the additional profit which they might get in case things run smoothly.

Q. 27. Then by one per cent you mean one per cent above the current rates?

A. Above the safe rate.

Q. 28. That is, they will always demand something above what they can get by putting their money on mortgage and real estate?

A. Yes sir.

Q. 28. During the two years mentioned, 1906 and 1907, what was the current rate of interest on loans secured by perfectly good security but for shorter periods of time, and not by real-estate?

A. I have had a great deal of experience in that. The range of interest last year was as high as twelve per cent. We paid that ourselves.

Q. 30. On what kind of a loan?

A. On a six months' loan secured by first-class bonds. We had to make these loans east as we could not get any money in San Francisco. We paid as high as twelve per cent.

Q. 31. I suppose from what you state, that varies?

A. That varies, and it goes down as low as five, sometimes, when money is very plentiful; but six per cent would be about an average. Our averages might be about six per cent. It varies. You can't tell. It goes from month to month at different rates. Money is getting cheaper. But before the panic money was plentiful. During the panic money is as high as twelve per cent. Call money, such as could be called at any time, went up as high as 100 per cent during the panic.

Q. 32. As I understand you, six per cent is about as low as it has been during the two years mentioned?

A. That may be the average. Of course sometimes it is cheaper and sometimes it is higher. It depends upon the money situation, the money conditions.

973 Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Barth, What are the several rates of interest payable according to the terms of the bonds now outstanding and sold by the City and County of San Francisco?

A. The first ones which were issued were three and one-half per cent bonds. They were taken, part of them were taken by our Savings Banks at par and interest.

X Q. 2. Well the interest in the bond is three and one-half per cent?

A. Yes at that time.

X Q. 3. I am not talking about the profit the broker makes or the banker, but the net rates?

A. I was not either.

X Q. 4. That is three and one-half per cent interest? There are some a little higher are there not, a little more per cent?

A. The last ones which were issued are five per cent.

X Q. 5. And what is the rate of interest that the Spring Valley bonds bear, the several issues?

A. There is only one issue of Spring Valley bonds.

X Q. 6. What rate is that?

A. They are four per cent bonds; selling at 87¾ redeemable by

the company at par, which has got to, be taken into consideration. The buyer makes a profit of between 82¾ and par, which raises the rate of interest from, say, four per cent, if he would have to buy at par, to about five and three-quarters.

X Q. 7. Well the Spring Valley bond is now low on account of its financial condition, because of the fire and earthquake?

A. It has been ten points lower, about, last year.

X Q. 8. That is due, is it not, mainly to the earthquake and fire?

A. Partly to that and partly because money is in good demand here.

X Q. 9. Were not Spring Valley bonds selling above par before the earthquake and the fire? What was the highest price?

974 A. At that time, or before the fire, there were different issues. Then the bonds were all called in in 1906 and they have been replaced by one issue. There were four issues of Spring Valley Water bonds; first, second, third and a general mortgage. Now the general mortgage is the only bond now outstanding. The other three issues have been cancelled by the general mortgage bond. At that time ,when those bonds were issued, a syndicate underwrote those bonds and tried to sell them to the public, but it was not a great success. I was one of the underwriters myself, and we did not succeed in selling the bonds. We only sold a small portion of them. We still have our bonds left—that is, those who did not sell them at a loss.

X Q. 10. Well that is due, is it not, to losses by the earthquake & fire?

A. That has something to do with it; no question about that.

X Q. 11. The stock of the Company fell considerably did it not?

A. The stock fell from $40, which I think was about the price before the fire, but I would not be absolutely certain of the price, but that was about the price; and since then it has improved. The price is now about $30. It has been as high as 34¾ during the last six weeks or two months. I don't know exactly.

X Q. 12. I understood you to say that people investing their money in Water Companies expect to get from six to eight per cent upon their investment?

A. Yes sir; on the stock.

X Q. 13. On the stock?

A. Yes.

X Q. 14. Do you know of any investments in the stock of irrigation companies such as the complainant in this case?

A. No I am not posted on those companies. I don't know anything about it.

X Q. 15. Do you refer to water companies to municipal irrigation companies or to irrigation companies to irrigate farm-

975 ing lands?

A. I mean both. I don't know that there's much difference, so far as the risk is concerned.

X Q. 16. Do you know of any irrigation companies or farming lands where the stock is bought and sold in the stock market?

A. No it is not sold here.

X Q. 17. Do you know of any investments by persons in the stock of companies operating water plants to irrigate farming lands?

A. I am not acquainted with them.

X Q. 18. You are not acquainted with them?

A. No I only know that water companies such as supply towns and cities expect to get about the returns which I have stated.

X Q. 19. Then your testimony is confined to that class of water companies.

A. Mostly to that. In my experience, not having had many irrigation companies that we have had any dealings with, excepting irrigation bonds, those we handle, but not the stocks. I don't know if they are listed.

X Q. 20. The bonds were probably one of these irrigation districts were they not?

A. Well, Turlock irrigation bonds, as I say, we have handled that class of securities.

X Q. 21. That has no stock, however—that concern?

A I don't think so. I don't know that it has.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Mr. Barth, you referred to the first issue of bonds of the City and County of San Francisco at an interest rate of three and one-half per cent. Do you remember substantially how many bonds were authorized by that issue?

A. Yes I think I do. I think there were 17,000,000. There were only 5,000,000 or 6,000,000 sold.

R. D. Q. 2. It was absolutely impossible, was it not——

A. It was absolutely impossible to sell them. It was a
976 mistake of the City. The City recognized that it was a mistake that the rate of interest was so low.

R. D. Q. 3. Was that the reason for the second issue?

A. The second issue, to make that salable, had to pay a higher rate.

R. D. Q. 4. That was the reason that the second issue was made, was it not, because they could not sell the first?

A. They could not sell the first. The City was not allowed to sell them for less than par and interest, and in order to sell them at par and interest they had to make it a higher rate.

R. D. Q. 5. Now you referred to the Turlock irrigation district bonds. Do you remember what interest they bore?

A. I am not quite positive, but I think it was five per cent. I would not be sure of it. And the bonds have been selling as low as 75. But I would not be sure it was five per cent. My recollection is that they were five per cent bonds, but I would not be quite sure.

R. D. Q. 6. I don't know what the fact is, Mr. Barth, but have you noticed whether or not the selling price of bonds of the Spring Valley Water Co., for instance, is or is not affected by the action of the municipality fixing the rates?

A. Oh yes, to a great extent; also the stock. And for that reason

the investing public takes that into consideration and they want a higher rate on account of that risk which exists.

Recross-examination.

By Mr. LANGHORNE:

R. X Q. 1. Is it not the fact that the Turlock irrigation bonds, say, are now selling for 97?

A. The only recollection I have got—we have handled many of them. I sold some to Daniel Meyer at 75. What he sold for I don't know. That has been some time ago.

R. X Q. 2. You don't know what they are selling for now?

977 A. No, there is no market price. Mr. Meyer is about the only man who buys them, and of course he sells them, I suppose, when he can make a pofit.

(NOTE BY REPORTER.—The testimony of C. A. Warren, taken November 16, 1908, is inserted out of chronological order for the purpose of maintaining intact the testimony of W. C. Hammett, at the request of counsel for the respective parties.)

978 MONDAY, *November* 16, 1908—3 p. m.

The Master with the attorneys and the reporter met at the Buena Vista Hospital.

Appearances:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Testimony of C. A. WARREN, called for complainants, sworn:

By Mr. TREADWELL:

Q. 1. Please state your full name.
A. C. A. Warren.
Q. 2. What business are you engaged in?
A. Contracting business.
Q. 3. In connection with any particular company?
A. The Warren Improvement Company.
Q. 4. How long have you been in the contracting business?
A. Since 1874.
Q. 5. By "contracting business" what business particularly do you refer to? What kind of business?
A. All kinds of railroad building, ditch building.
Q. 6. In the construction work of regular structures, or just excavating construction work?
A. Construction work; trestles for railroads.
Q. 7. Have you been engaged during that time entirely in the State of California, or elsewhere?
A. In the State of California and Oregon.
Q. 8. Are you acquainted with the canals and properties of the San Joaquin & Kings River Canal & Irrigation Co., in Stanislaus, Merced and Fresno counties?

A. Yes.

Q. 9. You have been all over those properties?

A. I have been over most of them.

Q. 10. You are familiar, then, I suppose, with the cost and
979 expense of excavating work such as there is on that Canal?

A. Yes sir.

Q. 11. Will you state, Mr. Warren, what would be the cost of excavating those Canals in 1907?

A. What would be the cost of excavating those Canals in 1907?

Q. 12. Yes sir?

A. At two bits a yard.

Q. 13. Do you make any distinction between excavating where it is done by scraper and where it is done by dredge?

A. Yes, if it is dredge work, if you could do it by dredgers, you could do it for about thirteen cents or fourteen cents.

Q. 14. Do you know what the price of labor was during that period, during 1907?

A. Yes sir.

Q. 15. About what did you have to pay for labor during that period?

A. It averaged $2.25 a day to the laborer.

Q. 16. Are you familiar with the price of lumber, plain lumber such as is used in the structures down there in those Canals?

A. Yes sir.

Q. 17. Now exclusive of the battens and weir boards, but the plain lumber, how much per thousand is that worth, or what was it worth in 1907?

A. Let me see. That is principally redwood is it not?

Q. 18. Yes sir?

A. 2 inch and over. There is not much 1 inch stuff is there? You know it is sometime ago that I went over that.

Q. 19. Well you can answer in your own way Mr. Warren, giving such information as you have, giving prices as you understand them.

A. Well, in 1907 you say?

Q. 20. Yes sir.

A. Well that lumber probably could be landed on that ditch at that time for $30 a thousand. It could probably be handled and worked for $15 a thousand. That is a very close estimate.

Q. 21. That is putting it in place?

A. Yes putting it in place. I know Mr. Goodwin has got an estimate made up for that, but it looks so ridiculous for a
980 contractor to state such a thing.

Q. 22. You have seen an estimate of the value made by Mr. Goodwin, of this property?

A. Yes.

Q. 23. And the one that he filed in this case?

A. Yes.

Q. 24. And that is the one you refer to?

A. That is the one I refer to, yes.

Q. 25. And what I understand you to mean is that those figures are ridiculously low?

A. Ridiculously low yes.

Q. 26. Do you think it could be done for those figures?

A. No, in 1907, you know; no, nor never could be done at that price.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. When were you on this Canal last Mr. Warren?

A. I think it was about four years ago. I had everything lying right in my desk, in the top drawer of my desk and I was looking at it just a day or so before the fire. I don't know how I should have happened to be turning those things over.

X Q. 2. Did you make any estimates or figuring as to the cost of excavation or of lumber at the time you were on the Canal?

A. Yes.

X Q. 3. At whose request?

A. Mr. McCray's.

X Q. 4. What excavation were you figuring on?

A. I was figuring on the excavation of making that ditch from the wild earth, from the earth as it was before the ditch was made.

X Q. 5. Had you done any work for the Canal Company?

A. For Miller & Lux?

X Q. 6. Yes?

A. I never did a day's work for them.

X Q. 7. Prices in 1907 were higher than usual were they not?

A. Rather higher, yes.

981 X Q. 8. What was the cause of that, mainly?

A. The stringency in the labor market.

X Q. 9. Wasn't it due in some degree to the conflagration and earthquake in San Francisco in April 1906?

A. Why I don't think the earthquake had much to do with it, any more than labor was very scarce.

X Q. 10. Labor was unusually high was it not?

A. In 1907 labor was beginning to get down kind of normal again.

X Q. 11. A great deal of building was going on in San Francisco was there not?

A. Yes, sure.

X Q. 12. And labor was going from the country to the city?

A. A great many laborers had gone from the country to the city; yes sir.

X Q. 13. And there was a great deal of labor being used in San Francisco?

A. Yes sir.

X Q. 14. All those causes together had a tendency, so far as work in the country was concerned, to raise the cost of it, did they not?

A. Yes sir, probably ten per cent.

(By Mr. TREADWELL:)

Q. That is, ten per cent above what?

A. Ten per cent above what it was in the lowest year, at the lowest stage of the game.

(By Mr. LANGHORNE:)

X Q. 15. Did you ever do any canal work on the west side, in Fresno, Merced or Stanislaus, in the vicinity of this canal?

A. No I did some work down in the Coalingo district, down in above Huron-Coalingo and Stanley; and I believe a piece of canal somewhere there in Fresno, for Dr. Perrin at one time.

X Q. 16. That was down in Fresno County?

A. Yes.

X Q. 17. That was a good many years ago?

A. Yes a good many years ago.

X Q. 18. About twenty years ago was it not?

A. Yes.

X Q. 19. That was in that land known as Perrin Colony?

982 A. Yes.

X Q. 20. Of course in your figures you have figured on a profit to the contractor?

A. I have figured on what a contractor would do it for, certainly.

(At the close of the session of Thursday, November 19, Counsel for complainant announced that he had closed his case in chief; whereupon an adjournment was had subject to notice.)

983 WEDNESDAY, *December* 16, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Mr. LANGHORNE: If your Honor please, the defendants offer in evidence the proceedings had before the board of supervisors of the County of Stanislaus on May 14 and June 25, 1907, in the matter of the fixing of the water rate ordinance complained of, which was passed on June 25, 1907; and those proceedings are represented by a document which I have in my hand, which I offer, which contains the testimony of R. H. Goodwin, C. A. Warren, J. Q. Drummond, F. B. Marks, W. J. Stockton, J. N. Stuhr, C. Z. Merritt, J. D. Schuyler, Walter James, on behalf of the complainant canal company, and C. E. Sloan, Burton Smith, E. S. Wangenheim, on behalf of the County of Stanislaus; and in connection with the testimony of Messrs. Sloan and Smith there are several exhibits attached to this document constituting a report by them as engineers, to the county. And there is also contained in this document a rate order passed by the County of Stanislaus on June 25, 1907. And I will follow this offer by offering the exhibits which were introduced in that action in connection with the testimony of R. H. Goodwin and C. Z. Merritt on behalf of the canal company. This document that I have referred to as containing said testimony and the exhibits of the report of Sloan and Smith I offer and ask to be marked as an exhibit. In connection with the offer last made I offer the

reports which were submitted by the witness R. H. Goodwin on that occasion, which reports of said Goodwin are the same as contained in Complainant's Exhibit 1, introduced in this case, with the exception that the first five pages of the affidavit of said Goodwin attached to said Exhibit 1 were not a part of said Goodwin's testimony or report before the board of supervisors. And also in con-
984 nection with the last offer, which will be marked "Exhibit N," defendants offer the exhibits introduced before said board of supervisors in connection with the testimony of C. Z. Merritt, being Exhibit 20, from and including the year 1897 to and including the year 1906; and also a statement of Maintenance Account of the S. J. & K. R. C. & I. Co., Inc., from 1895 to 1906, inclusive, to be found from and including page 204 to and including page 210 of the printed volume of affidavits on motion for injunction in this cause; and I will ask that the shorthand reporter write those into the record.

Mr. TREADWELL: To this offer the complainant objects, and to each and every part thereof except to the order made by the board of supervisors of the County of Stanislaus, on the ground that the testimony introduced before the board of supervisors is entirely incompetent, irrelevant and immaterial to any issue in this case; that it is entirely immaterial what testimony was taken, or whether any testimony was taken or was not taken before said board; also that the testimony here offered is hearsay and not binding on the complainant, and not evidence in this case in any manner.

Mr. LANGHORNE: You do not object on the ground that the document does not properly represent what was done, do you?

Mr. TREADWELL: Oh no; subject to my objection that it is improper testimony and irrelevant and incompetent in this proceeding, of course these particular papers I am going to admit show the proceedings that did take place, without the production of a certified copy or copies, or any better evidence. *I*t think, your Honor, that the question should be ruled on.

The MASTER (after argument): Pursuing the rule that I have adhered to heretofore I will overrule the objection and give counsel the benefit of an exception.

Mr. TREADWELL: We wish to state now, so that there will
985 be no misunderstanding, that we will take the position that we are not bound in any way by any statements, stipulations or admissions or testimony in any way contained in this record now offered.

(The documents offered in evidence by counsel for defendants were marked "Defendants' Exhibit N." A copy will be found elsewhere in this record.)

Mr. LANGHORNE: In regard to the proceedings in May, 1907 in the County of Merced, if your Honor please, we offer the same record and evidence just offered in connection with the county of Stanislaus, except the said evidence and report of C. E. Sloan and Burton Smith, and except the said evidence of E. S. Wangenheim, no evidence having been introduced before the Board of Supervisors of Merced County on that occasion on behalf of the county. And

in regard to the proceedings before the Board of Supervisors of Fresno County in May 1907, in regard to the water rate complained of, we offer the same evidence as to the proceedings before the Board of Supervisors of Stanislaus county, that have already been introduced in evidence, with the exception of the said evidence and report of C. E. Sloan and Burton Smith, and the said evidence of E. S. Wangenheim, no evidence having been introduced on that occasion on behalf of the county of Fresno.

Mr. TREADWELL: We object to the offer of the proceedings before the Boards of Supervisors of Fresno and Merced counties on the same grounds as heretofore alleged against the proceedings before the Board of Supervisors of Stanislaus County; and subject to that objection will ascertain what the proceedings were, and then if counsel is correct in stating that those were the proceedings, it can go in with that understanding.

The MASTER: The same ruling, with an exception to counsel for complainant.

986 Mr. LANGHORNE: Mr. Treadwell, I will ask if you will admit that the form of the three rate orders passed respectively by the counties of Stanislaus, Merced and Fresno in May and June, 1907 were not proposed and accepted by the counties; that is, with the exception of the dates and the figures contained in said orders?

Mr. TREADWELL: I will state that at the time these matters were submitted to the various boards of Supervisors, the representatives of complainant did submit forms of ordinances to be adopted by the Board, and that those forms were the same as the ordinances actually adopted, with the exception that the value of the property, the amount of the operating expenses and the rate were different. Those amounts and the dates also being left blank. Otherwise the ordinances are in the form submitted. But while admitting that fact I wish to object to the offer of that evidence on the ground that it is entirely incompetent and irrelevant as to who performed the work or prepared the form of the ordinances; that the Boards cannot impugn their own actions, and that this is not a suit in which the Board is asking to be relieved from these ordinances; and it is entirely immateria' who drafted the form of it.

Mr. LANGHORNE: Will you admit, Mr. Treadwell, that at the time these rate ordinances of 1907 were passed by the Boards of Supervisors of Merced and Fresno counties, that the canal company expressed themselves to the Board as being satisfied with the rates fixed by those two counties.

Mr. TREADWELL: I will not.

987 Examination-in-chief of D. M. ROUSE called for defendants, sworn.

By Mr. LANGHORNE:

Q. 1. Where do you live Mr. Rouse?
A. I live in Los Banos, Merced county.
Q. 2. How long have you lived there?

A. I have lived there since October 1891.

Q. 3. What is your occupation Mr. Rouse?

A. Well I have had considerable to do with building canals and running water, etc., for the last thirty years.

Q. 4. Do you know the complainant in this case, the San Joaquin and Kings River Canal & Irrigation Co?

A. Yes sir.

Q. 5. How long have you known them?

A. I have known them since 1891.

Q. 6. Did you have any connection, ever, with the canal company or the predecessor of the present canal company?

A. How is that?

Q. 7. Well, I will state, Mr. Rouse, that about 1905 the California corporation that owned that canal was organized under the laws of Nevada, and they added the word "incorporated" to their title, but were still known as the San Joaquin & Kings River Canal & Irrigation Co, but it was a California corporation.

A. Yes sir.

Q. 8. Then you knew the complainant's predecessor?

A. Yes sir.

Q. 9. What connection did you have with that company?

A. I was superintendent.

Q. 10. During what period of time were you superintendent?

A. From 1891 to January 1904, I think it is.

Q. 11. Have you resided near that canal since you left the employment of the company in 1904?

A. With the exception of six months. I was in Los Gatos six months.

Q. 12. Are you familiar, and have you since your employ-
988 ment by the company in 1891 been familiar with the canals and works of complainant and its predecessor?

A. Yes sir.

Q. 13. Do you know anything about the running along or the pasturing along the banks of this canal of any cattle?

A. Yes sir.

Q. 14. Do you know who own those cattle?

A. They have got Miller & Lux's brand on them. I suppose they belong to Miller & Lux.

Q. 15. What portions of the canal are pastured by Miller & Lux's cattle?

A. Well, you take it from Firebaugh's down to two miles and a half below Camp 13, the stock runs on that canal.

Q. 16. Camp 13 is in what county?

A. Camp 13 is in Merced county.

Q. 17. About how far south of Los Banos is it?

A. About seven or eight miles.

Q. 18. What effect if any did those cattle have upon the banks of the canal?

A. Well they were eating and drinking. Of course they would step into the edge of the water and it would knock the bank, cave it in; and also on top of it they would wear it out.

Q. 19. Was that caving and knocking down of the bank done by the cattle to any considerable extent, or to a small extent?

A. Well to a considerable extent.

Q. 20. Was that detrimental or beneficial to the canal?

A. It was detrimental.

Q. 21. Did that damage by cattle take place during the length of the canal used or mentioned as being pastured by Miller & Lux?

A. Yes sir.

Q. 22. For how many years did that go on?

A. All the time during my stay on the canal, from 1891 to 1904.

Q. 23. How about since you left? What is your observation?

989 A. I have not been over it so much. I have been over, up and down the canal a time or two. I see the stock that is there, and about the same as they always were. The conditions are about the same.

Q. 24. When you were on the canal there were certain places were there not, called waste gates?

A. Yes sir.

Q. 25. Will you please state where they were, and give their names?

A. Well there was the first two—leaving the head gate, the first one I should judge was about a mile this side. The next one was a mile and a half.

Q. 26. What was that first one called?

A. I don't know as it had any name. I put those wastes in myself, and I don't know as we ever did name them. The next one was at Firebaugh's. That was called the Firebaugh waste.

(By Mr. TREADWELL:)

Q. 27. That is the third one?

A. That is the third one. And the fourth one was down between Firebaugh's and Dos Palos ranch. That was called the—I can't remember the name.

(By Mr. LANGHORNE:)

Q. 28. Do you know the place called Camp 13?

A. Yes. Then the next one was Camp 13. Of course there were small little wastes in between there. They don't amount to much.

Q. 29. Was there one at Los Garzas creek?

A. There was one at Los Banos creek.

Q. 30. And one at Los Garzas creek?

A. And one at Los Garzas creek.

Q. 31. Was there one at Orestimba creek?

A. Well we did have a waste way there, but that went back into the river—the water.

(By Mr. TREADWELL:)

Q. 32. Well he was not asking where it went to. He was trying to find out where the wastes were?

A. Well we had one at Los Garzas creek.

(By Mr. LANGHORNE:)

Q. 32. How were those waste gates built?

A. Well they were built perpendicular, so that your boards, 3-inch boards, you can drop them in. The boards are, most
990 of them, 3 by 6; some of them 3 by 12.

Q. 33. How large were these wastes?

A. Well some of them are 12 inches and some of them not more than 6.

Q. 34. I mean across the stream?

A. How wide with the stream?

Q. 35. Yes?

A. Well they vary. Some of them is 8 feet and some of them is 10.

Q. 36. And during what months was the irrigating, Mr. Rouse?

A. April, May, June, July was when most of the irrigating was done.

Q. 37. Was any water wasted from the canal through those wastes during the irrigating season?

A. Yes sir.

Q. 38. Into what place did the waters wasted from the Firebaugh waste go?

A. Back into the river.

Q. 39. And the waters wasted at Camp 13, where do they go?

A. They went down into the river; Miller & Lux's swamp.

Q. 40. When you say "swamp", what was that swamp used for, if you know?

A. Well it is used for pasture land.

Q. 41. Pasturing what?

A. Cattle.

Q. 42. Whose cattle?

A. Miller & Lux's cattle.

Q. 43. And the waste waters at the Los Banos waste, where did they go to?

A. They went down into the swamps.

Q. 44. The same pasture land?

A. Not exactly the same land. It runs over different land.

Q. 45. Belonging to whom?

A. Belonging to Miller & Lux.

Q. 46. And the Los Garzas waste?

A. The same thing. It runs over the land of Miller & Lux.

Q. 47. And Orestimba waste?

A. That runs back into the river.

Q. 48. Were these swamp or pasture lands of Miller & Lux practically in the same place all the time since you have known them?

A. Well they are getting larger all the time.

Q. 49. Please answer the question. Are they in the same place, in the same locality?

A. Yes sir, the same.

991 Q. 50. Are they getting larger or smaller?

A. They are getting larger.

Q. 51. In what county do they principally lie?

A. They most of them are in Merced county.

Q. 52. Now do you know of a ditch called the drainage ditch for the outside canal?

A. Drainage ditch?

Q. 53. Yes?

A. Yes sir.

Q. 54. Where does that commence, about?

A. I could not say exactly, but somewheres between Los Banos and Camp 13; not a great ways below Camp 13.

Q. 55. That runs along, does it not, the south side of the main canal?

A. Yes sir.

Q. 56. And its object is what?

A. For draining the——

Mr. TREADWELL: We object to its object. If you mean what it is used for?——

The WITNESS: It was used to drain.

Q. 57. Well what was it used for?

A. It was used for——

Q. 58. Just state what it does; what it does now and what it did do is a different thing.

A. It was intended to drain the water of the canal, the waste water, off from the outside canal.

(By Mr. LANGHORNE:)

Q. 59. What was done with the waters that flowed in that drainage ditch?

A. It ran back into Los Banos creek, a certain portion of it.

Q. 60. And from there?

A. Went back into the canal; went back into the main canal; that is, the old canal.

Q. 61. Are not any of these drainage waters carried into Miller & Lux's——

Mr. TREADWELL: I object to your leading him on a proposition of that kind.

(By Mr. LANGHORNE:)

Q. 62. These drainage waters that went into Los Banos creek, where did they go then, Mr. Rouse?

A. This drainage water that went into Los Banos creek?

Q. 63. Yes?

992 A. Where it goes into Los Banos creek, the creek there is part of the canal. The canal empties into Los Banos creek and it runs down, follows the creek probably in the neighborhood of a thousand feet, and the water went back into the creek.

Q. 64. Do all the waters of this drainage canal that you*u* have spoken of go back into the main canal?

A. Not at present, no; it does not now.

Q. 65. Where do they go now?

A. The canal had a pipe box put under the canal, and they took

it through under the canal, they take it under the canal now and take it off into the swamps.

Q. 66. Into Miller & Lux's swamp?

A. Yes sir.

Q. 67. What is the size of the pipe box?

A. That pipe box is 170 feet long. It goes under both canals, and is 13 feet and a half, I think it is, wide, and two feet high.

Q. 68. Does it run full of water at any time of the year?

A. Yes sir there is times when it is full; when there is considerable irrigating between the two canals, that is, the outside canals and the main canal.

Q. 69. Could that drainage water from the outside canal be turned into the main canal?

A. Yes sir it could go down the main canal and empty into the creek so as it goes right back into the old canal.

Q. 70. When was that box put in?

A. Well I could not tell you exactly. Somewheres in 1898 or 1899; along there somewheres.

Q. 71. Is there a small or a large quantity of water that runs through that drainage canal in that box on to Miller & Lux's land as you have described?

A. Well that is not the only drainage they have. They have one above. It don't all go through that.

Q. 72. They have another box?

A. Yes it is not a box. I think that is a pipe. I didn't
993 put that in.

Q. 73. Where do the waters from that lead to?

A. Out into Miller & Lux's swamp.

Q. 74. Could those waters be carried into the main canal?

A. Yes they could be carried into the main canal. They could be run down this ditch and back into the old canal.

Q. 75. Now were any other persons or concern along the canal allowed to have any of these waste waters which you have spoken of other than Miller & Lux?

A. No sir, not without they paid for it.

Q. 76. When you were superintendent did Miller & Lux pay for this waste water?

A. No sir.

Q. 77. Or pay for this drainage water you have spoken of?

A. No sir.

Q. 78. What were your duties as superintendent in regard to delivering water to customers, Mr. Rouse?

A. Well, parties wanting the water would make application to the section men. That is, men that we had along the canal to look after certain sections of the canal. They would make application to them that they wanted water at a certain time. And sometimes they would ask me in regard to it, when we had plenty of water. If we did I told them I would let them have it. If there was plenty of water they generally knew it and didn't have to ask me. They asked the section men.

Q. 79. Did any customer ever take any water from the canal without your consent?

A. Well sometimes they might steal it.

Q. 80. I mean, was any water turned on by the customers, Miller & Lux or——

Mr. TREALWELL: We object to this constant suggestion to this witness.

The MASTER: Avoid leading questions as much as possible.

(By Mr. LANGHORNE:)

994 Q. 81. You had control of the water did you not?

A. Yes sir.

Q. 82. The delivery of it?

A. Yes sir.

Q. 83. Will you state whether any water was turned on without your consent by any customer?

A. Miller & Lux used to take it out whenever they wanted it. If it was there they took it.

Q. 84. Without asking you?

A. Yes sir.

Q. 85. What water was that?

A. The water that was in the canal.

Q. 86. Was it or was it not these waste waters that you have been talking about?

A. No it was not waste water.

Q. 87. I ask you whether or not it was waters that they were to pay for or that they were supposed to pay for?

A. Yes sir.

Q. 88. The people in the lower end of the canal, if you wanted to deliver water into the lower end of the canal what was your custom in that regard as to shutting off the water above?

A. Well at certain seasons of the year when water was scarce I aimed to throw all the water on one section. I generally commenced on the lower end and would irrigate up, up the canal to a certain point. If there were any people down at the lower end as a general thing I would give it to them first. Then when they were through I would take it away from them and take it to the next section above, and so on.

Q. 89. During what periods of the year was the water most scarce?

A. Well in August and September.

Q. 90. Was there any period of the year when you were there when you were unable to supply water to the irrigation at the north end of the canal?

A. Yes sir.

Q. 91. What period of the year was that?

A. What year?

Q. 92. What period of the year?

A. That would be in August and September.

Q. 93. Why was that?

A. Well there was no water in the river, scarcely, very little.

995 Q. 94. What is the condition of the canal at the present time in regard to silting?

A. Well I have not been over all the canal. Some of it I have been over. Though I have done considerable work on it, cleaning it out. And the canal is in better shape now than it was a few years ago.

Q. 95. Is there any silt in the canal now?

A. Not where I have seen; not where I have been over.

Q. 96. Do you know how it was in that regard in May and June 1907?

A. No sir that was after my time.

Q. 97. You have not made any special investigation——

Mr. TREADWELL: I object to your leading him.

(By Mr. LANGHORNE:)

Q. 98. Have you made any special investigation as to the silting of the canal since you left there?

Mr. TREADWELL: I object on the ground that he cannot impeach his own witness. He has asked the witness as to the silting and the witness has said that there is none now. He can't go back and show that he didn't know anything about it.

The MASTER: Ask him.

(By Mr. LANGHORNE:)

Q. 99. As to the silting of the canal have you made any investigation since you left there?

A. No sir I have not.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Taking the first three wastes in the canal before coming to the Firebaugh wastes, are those into natural sloughs or into artificial canals?

A. They are into natural sloughs.

X Q. 2. And where do those sloughs run to?

A. They run back towards the river, onto that land; and some of it goes back into the river.

X Q. 3. And the water that would waste into those sloughs would go back into the river would it?

996 A. Yes sir; that is, above Firebaugh's, you mean?

X Q. 4. Yes, I am talking about those. Now have you ever seen water wasted into those three wastes?

A. Yes sir.

X Q. 5. And how often?

A. Well sometimes when the river would get very high and the water would come around up above China slough and into the slough it would get the canal so high that we would have to open those gates in order to protect our canal.

X Q. 6. How much water have you seen come out of those three wastes?

A. I never measured it. I never seen it measured.

X Q. 7. You have estimated it? You understand estimates in general in regard to the amount of water flowing into a canal don't you?

A. I suppose at a rough guess 20 or 25 feet.

X Q. 8. Out of each one?

A. Yes sir.

X Q. 9. Now the Firebaugh waste, where does that go?

A. That goes back into the river.

X Q. 10. Have you seen water wasted through that?

A. Yes.

X Q. 11. And how often? What time during the irrigating season?

A. During the irrigating season they wasted there considerably. We generally would have to regulate our water in the canal.

X Q. 12. You would have to regulate the canal at that point?

A. Yes sir.

X Q. 13. How much water have you seen coming out of that waste? What is the largest amount?

A. Well I have seen the gate open, the whole thing going.

X Q. 14. How much would it carry in that way?

A. I think they figured between 600 and 700 cubic feet per second.

X Q. 15. And what would be the smallest quantity that would be run out there, as a general thing?

A. Oh, the smallest quantities would be what would naturally seep through the boards, would be the smallest quantity.

X Q. 16. Now getting it down to that point, what would be
997 the smallest quantity?

A. I could not tell you.

X Q. 17. You could not say how much that would be?

A. No sir.

X Q. 18. Could you estimate?

A. Oh it would not be over a foot or two probably.

X Q. 19. Now taking it as a general proposition during the irrigating season, how much would come out through there when you were wasting it through there? Can you give anything more definite between that foot or two and 600 feet?

A. I suppose 15 or 20 feet, probably .20.

X Q. 20. Now in the swamp that you referred to at Camp 13, how long during the year would that swamp hold water?

A. How long would it hold water?

X Q. 21. Yes.

A. Well I have seen water in the lower part of it I think the year round.

X Q. 22. And what effect does that have on grasses, having water on a place the year round?

A. Well there is some kinds of grasses that will grow in water and there is others that won't.

X Q. 23. Do you get much grasses where you apply water all year round?

A. Oh yes, considerable; kind of swamp grass; tules.

X Q. 24. I mean, does it produce good feed?

A. Yes.

X Q. 25. So that all that swamp would be good feed?

A. Not all of it.

X Q. 26. Well about? Would that kind of irrigation produce good feed or not?

A. Well some land there at Camp 13 has as fine growing grass as I have seen. I have seen that grass belly high to a horse; just as thick as it could stand.

X Q. 27. What I want to know is whether that swamp was making that land any better?

A. It was making better land out of it.

X Q. 28. Now the Orestimba waste, the Orestimba creek, that water goes back to the river, does it?

A. Yes sir.

998 X Q. 29. Did you ever waste any water through there?

A. Yes sir.

X Q. 30. What seasons of the year?

A. Well in the spring of the year.

X Q. 31. That is, during May, June and July?

A. During May, June and July.

X Q. 32. When the river was high?

A. Yes.

X Q. 33. What would be the average amount that would be wasted out through there?

A. Well I could not tell you the average amount. As a general thing there was not as much water wasted through there *was* there was above, because we never wasted water through there unless it was to protect the canal. We had a good many people irrigating. They would shut down for some cause when the water was being delivered, and that water would then have to be run through the creek back into the river.

X Q. 34. How much was the most you have seen running through there?

A. Oh I have seen a good deal. I think it is about 14 foot. I have seen it running out 4 or 5 feet deep.

X Q. 35. About how much would it be in cubic feet?

A. I could not tell you.

X Q. 36. Don't you understand figuring water waste from gates?

A. I could not tell.

X Q. 37. Are you not able to tell in a general way the amount of water that is passing through those gates?

A. Well I could tell pretty close.

X Q. 38. How much would you say that was—that is, without figuring it, of course, just in a general way?

A. I should think 20 or 25 feet.

X Q. 39. 5 feet deep and 14 feet wide would make 20 or 25 cubic feet?

A. It would make more than that. You said on an average.

X Q. 40. No, I am talking about this time that you say you saw it 5 feet deep and 14 feet wide. I say how much discharge would that be there?

999 A. I didn't measure it. I don't know as it was 5 feet deep. That is only guess work.

X Q. 41. It is as nearly correct as you can get it, isn't it? You are trying to state it as you understand it to be, are you not?

A. Well I don't want to overestimate it. I am sure I don't want to say it is 25 feet if it is not.

X Q. 42. Well I don't want you to underestimate it, either. Now when you saw it running there 14 feet wide and 5 feet deep, what would be the discharge, about?

A. If you figure it right out it would probably be about a hundred cubic feet.

X Q. 43. And that average there of 20 or 25 feet would be about the discharge at that place?

A. Yes.

X Q. 44. That would be about the amount of the general discharge there? Is that correct?

A. Well No. At times it discharges that much, but as a general thing we just kept that gate to keep the canal, and we used it in order to keep the canal safe, you know.

X Q. 45. That is what a waste gate is for, to regulate your flow in the canal?

A. Yes.

X Q. 46. Now was the ditch or the box that connected with the drainage ditch constructed while you were there?

A. The box under the canal.

X Q. 47. Yes?

A. Yes sir.

X Q. 48. And that drainage ditch was there at the time when you were there?

A. Yes sir.

X Q. 49. The land between the outside canal and the main canal was very extensively irrigated, was it not?

A. Yes sir.

X Q. 50. And in irrigating, passing water down from check to check, there is always likely to be sloughs formed, seepage, considerable water accumulating down toward the main canal? Is that the fact?

A. Oh yes, they get there sometimes, they get a little of it; other times not so much. Some men don't use as much water as others.

1000 X Q. 51. Before you had that drain ditch down there did that water accumulate down against the main canal?

A. Yes sir; because the canal was not put properly on a grade. It was not properly fixed.

Mr. TREADWELL: I move to strike out the answer.

The MASTER: Strike it out.

(By Mr. TREADWELL:)

X Q. 52. I say, the water would accumulate from the irrigation between the main canal and the outside canal, would accumulate under the main canal?

A. Yes, the water would run down there, I guess, the outside bank the canal into the——

X Q. 53. What effect did that have on the bank?

A. It didn't have much effect on the bank. It didn't hurt the ank any.

X Q. 54. It was a good thing was it?

A. I don't know as it was a good thing and I don't know as it as a bad thing.

X Q. 55. The land that you say was pastured by Miller & Lux long this canal, along that part of the canal, is there or is there not a ence along the right of way of the canal?

A. No sir.

X Q. 56. And about what distance is there where there is no ence along there?

A. You take it from Firebaugh's clear down to Camp 13, there is robably a couple of miles of fence just up to the left of Firebaugh's, ut it is off of the canal, I should judge, a thousand feet from the anal; then, it runs clear down through the Dos Palos country, down elow Camp 13, no fence.

X Q. 57. Now do you know what it would cost to fence that right away?

A. No sir I don't know.

X Q. 58. A good many thousands of dollars would it not?

A. I suppose it would, yes; I don't know.

X Q. 59. What did cattle come into the canal for besides drinking? Is there feed in the canal at times?

A. Yes sir.

X Q. 60. And do the cattle eat that feed out—the tules?

A. Well they will eat some of it out.

1001 X Q. 61. Well don't they eat a good deal of it out?

A. Yes sir they eat a good deal of it out.

X Q. 62. And toward the fall of the year when the feed is getting scarce, that keeps a good deal greener than anything else—that is, in the bottom of these canals?

A. There is a cerain amount of grass growing there.

X Q. 63. What is the effect of grass growing in the canal?

A. It has a tendency to stop the flow of the water.

X Q. 64. Which in turn causes silt?

A. Yes sir.

X Q. 65. And it is then a good thing to remove that growth in there, is it not?

A. Well it would be a good thing to remove it, but I think it would be a better thing to clean it out.

X Q. 66. I didn't ask you that?

A. You have asked me if I didn't think it would be a good thing to remove it and I told you it would.

X Q. 67. If you will just answer my questions we will get along nicely, but if you don't, we will not?

A. We won't fight.

X Q. 68. It is then at any rate a good thing to get rid of that feed that does grow in the bottom of those canals, isn't it?

A. Yes sir.

X Q. 69. Now as I understand you, you say that the conditions there in regard to the feeding of cattle along the bank of that canal are about the same now as they were when you were there?

A. From what I have seen.

X Q. 70. You state that Miller & Lux's men would take the water without asking you for it? You were the superintendent of that canal were you not?

A. Yes I was supposed to be.

X Q. 71. Do I understand you that this water was paid for as they took it?

A. Yes sir they were paying for it.

X Q. 72. What you mean then is that they would go to the canal and take it out of the gates when they wanted it, and use
1002 it?

A. Yes.

X Q. 73. And how did you determine the amount you were to charge them for?

A. I got at that by going over the land.

X Q. 74. You would go over the land and see what they were irrigating, would you; on an acreage basis?

A. Yes.

X Q. 75. Are there any other lands among the canal where people's cattle come up to the canal, outside of Miller & Lux's land, or did, at the time you were there?

A. No sir I don't remember of any. There was some cattle on the canal that Mr. Miller didn't own. Mr. Miller told me to have them taken away.

X Q. 76. You mean everybody else's land was fenced and no cattle except Miller & Lux's were there? Everybody else's land except Miller & Lux's was fenced along the canal?

A. No, not all fenced. But cattle don't run out in that country without somebody to look after them.

X Q. 77. You mean the cattle would be in the field but they would not come to the canal?

A. Oh no, where they are in a field there is a fence along.

X Q. 78. Was all the canal fenced with the exception of Miller & Lux's, at that time?

A. There was a fence with the exception of where there was no stock on.

X Q. 79. Didn't everybody have stock there?

A. Yes, they all had fences.

X Q. 80. They all had fences?

A. Yes, all that I knew did.

X Q. 81. Don't you think there was any case where the stock of anybody could reach that canal, or did reach it?

A. Well if they got out the section men would notify them to take the cattle away.

X Q. 82. Now you stated as to when you would take the water down to the lower end of the canal, as I understood; and if I remember correctly, you tried to irrigate that early in the year,
1003 when you had a large head of water. Is that the idea?

A. Do you mean the fore part of the season?

X Q. 83. Yes.

A. Well, the fore part of the season I had plenty of water and we irrigated all along the canal.

X Q. 84. And as I understood you you began at the lower end of the canal first?

A. That was in the fall of the year, when water was scarce.

X Q. 85. But as it began getting scarce you irrigated there first?

A. Yes sir.

X Q. 86. What kind of a head of water did you have to have in order to get it down to the end of the canal?

A. Oh that would depend on how much there was in the river. We had all the water there was in the canal.

X Q. 87. It takes considerable water to get any water out at the lower end?

A. Yes sir.

X Q. 88. How much water would you have to have in your canal before you got any down to the lower end?

A. Oh I think you would have to have a couple of hundred feet: 250 feet.

X Q. 89. If it took a couple of hundred feet in at the head to get any water down to the lower end, how much water would you get at the lower end?

A. Very little.

X Q. 90. How much would you say?

A. You would get some water down there, but I don't think you would get water down there sufficient to irrigate very much.

X Q. 91. That is, if you just had 200 feet in the canal at the head you would have very little in there at the time you got down.

A. Yes sir.

X Q. 92. The water then in the San Joaquin River, does it get low frequently in August and September?

A. Yes. Some years it is lower than others.

X Q. 93. And there is what you might call frequently a scarcity of water in those months?

A. Yes.

X Q. 94. Your canal during that time would take the first water in the river would it not?

A. Yes sir.

1004 X Q. 95. There was nobody else ahead of it was there?

A. No.

X Q. 96. What have you been doing, Mr. Rouse, since you left the employ of the canal company?

A. I worked a year for Col. Stevinson.

X Q. 97. And since that?

A. Since that I have not done anything but eating and sleeping and running around a little.

X Q. 98. Now you went into the employ of Mr. Stevinson immediately after leaving the employ of the canal company?

A. About 2 or 3 months.

X Q. 99. Did you arrange before that to go into his employ?

A. No sir.

X Q. 100. And by Mr. Stevinson you mean Mr. J. J. Stevinson?
A. Yes sir.
X Q. 101. And is that the same J. J. Stevinson that had brought a suit against this canal company for the purpose of limiting the amount of water that it could take into its canals?
A. Yes sir.
X Q. 102. Do you remember about when that suit was brought?
A. I know it was sometime in 1904.
X Q. 103. Well at any rate it was brought before you left the employ of the company?
A. Yes I believe they brought the suit before I left the employ of the company.
X Q. 104. And it had not yet been tried?
A. No sir.
X Q. 105. It was tried afterwards?
A. Yes sir.
X Q. 106. And you appeared as a witness there for Mr. Stevinson?
A. Yes sir.
X Q. 107. And against the Canal Company?
A. Yes sir.
X Q. 108. And in that case did you testify to the amount of water that you had diverted into the canal during the time you were there?
A. I don't remember.
X Q. 109. You don't remember?
A. No.
X Q. 110. Don't you remember testifying that during that period you only took—that you kept the canal at a certain gauge
1005 height at the head works?

Mr. LANGHORNE: We object to that unless the question and answers are read to the witness.
The MASTER: Was it taken down in writing?
Mr. LANGHORNE: I don't know whether it was or not.
The MASTER: If he is supposed to be asked in regard to what he testified to as appears of record, of course the record should be shown to the witness.
Mr. LANGHORNE: Allow me to ask the witness:
Q. Mr. Rouse, in that case when you testified was there a shorthand reporter present in court?
A. I think there was.
Q. Was your testimony taken down in shorthand?
A. Yes sir.

Mr. LANGHORNE: I submit that the rule is in a case of that kind that the witness is entitled, when he is asked as to whether he did not testify so and so in a former proceeding, and his testimony was taken down, he is entitled to have the questions and answers read to him.
The MASTER (after argument): I overrule the objection.
Mr. LANGHORNE: We take an exception.

(By Mr. TREADWELL:)

X Q. 111. Now did you not testify on that occasion that during

the time you were there you kept the gauge height at a certain definite place at the head of this canal?

A. Kept the gauge of the water?

X Q. 112. Yes.

A. Well I always done that.

X Q. 113. And didn't you testify at that time that that gauge height was kept at what was called generally 4 ft. 3 inches on the gauge height? Didn't you testify that way?

A. Yes sir I did.

X Q. 114. And didn't you testify that that only made a discharge of about 430 feet into that canal, and that that was all the water that you diverted?

A. No sir. I don't think I testified to anything of the kind.

X Q. 115. Didn't you so testify in reference to the discharge?

1006 A. No sir.

X Q. 116. But you do know, don't you, that to discharge at your gauge height would be only about 430 feet? You know that, don't you?

A. No, I do not.

X Q. 117. Don't you know that it would be?

A. No

X Q. 118. You don't know whether it was 2000 feet or 400 feet?

A. Yes, I know it would not be 2000 feet. But I testified to this. I remember this, that they asked me how much—that is, if I am allowed to go on and make this statement?

X Q. 119. Go ahead.

A. They asked me how much the canal would carry when I took charge of it, and I testified that Mr. Morgan had told me that 4 feet 3 inches at the headgate was all that the canal would carry unless they were irrigating at the Dos Palos ranch; then it would carry a little more, because they used a great deal of water there.

X Q. 120. Now you conferred as to your testimony in that case with Col. Stevinson's attorneys, did you not?

A. Certainly, they had an attorney with them.

X Q. 121. And you gave them any information that you knew in regard to this canal, that you thought would be beneficial to them, didn't you?

A. Certainly.

X Q. 122. Since that did you testify in favor of the East Side Canal and Irrigation Co. in the suit brought by the Las Animas & San Joaquin Land Co. and Mrs. Turner against the East Side Canal & Irrigation Co?

A. Yes sir.

X Q. 124. And in that suit you testified on behalf of the East Side Canal & Irrigation Co?

A. Yes.

X Q. 125. That is also the company that is controlled or was controlled by Col. Stevinson?

A. Yes sir.

X Q. 126. Have you testified in any other cases against Miller & Lux or the San Joaquin & Kings River Canal & Irrigation Co?

A. No, I think not.

X Q. 127. To get this straight: When you testified that you kept the water in the river at the 4 feet 3 inch gauge during the
1007 time you were there, you knew, did you not, that the contention of the Stevinson people was that that only amounted to a discharge of 430 feet into the canal?

Mr. LANGHORNE: We object to that question. Counsel assumes that the witness has testified that he kept the canal at 4 feet 3 inches.

(At the hour of 11:30 a. m. recess was had until 1:30 p. m., at which time the cross-examination of the witness D. M. ROUSE was resumed as follows:)

(By Mr. TREADWELL:)

X Q. 128. Didn't I or did I understand you, Mr. Rouse, to say that in the Stevinson case in which you testified, you did testify in that case that you regularly kept the gauge during the time that you were superintendent, at 4 feet 3 inches?

A. I don't remember whether I testified to that or not.

X Q. 129. Well, to refresh your memory: didn't you testify in the following manner:

Q. I will ask you, when you first went to work as superintendent for that canal company and succeeded Mr. Morgan, what was the head of water that was then turned at the head of the canal for the purpose of supplying the irrigation below? A. Four feet three inches.

Q. That was in April, 1891, as I understand? A. Yes.

Q. You mean four feet three inches in depth? A. Yes.

Q. That was at the gauge at the headgate? A. At the gauge below the headgate.

Q. Was that or was it not increased during the next year, 1892? A. No sir.

Q. Was it or was it not increased during the year 1893? A. It might have been a little increased in 1893. The colony canal was built, and we probably tried to get a little more water down to supply that.

Now you did testify that way, didn't you, Mr. Rouse, in that case?

A. Yes sir.

X Q. 130. And I say, at the time that you testified that way against this company, you knew, did you not, that Mr. Stevinson was contending, and that his engineers so testified, that that gauge reading only amounted to 430 feet discharge in the canal?

A. No, I did not. I didn't know anything what his
1008 engineers claimed. I know that we raised the water of the canal at Firebaugh.

X Q. 131. Never mind that. I am asking you what you testified to. Now during the years that you were superintendent were you familiar with the lands that were swamp, that you talked about, for Miller & Lux, how that was done?

A. Oh, I saw them. I saw the swamps and saw the water in it.

X Q. 132. Didn't you testify in the following manner in that same case:

Q. Now, Mr. Rouse, how familiar were you with the use of this water upon these swamps? A. Well, I seen a great deal of it turned in and run down to the swamps.

Q. Did you go down and see what was being done with the water upon those lands? A. Not until within the last year or so; I went through the swamps and noticed it.

Q. Before that time you did not have any intimate acquaintance with it? A. No.

Did you so testify?

A. Yes.

X Q. 133. Now didn't you testify also as follows in that same case: "I aimed to have as little waste as possible, to carry all I could. I couldn't carry it all. I had to waste some." Didn't you so testify?

A. Yes sir.

X Q. 134. Now you were also a witness, were you not, in the former case of the San Joaquin & Kings River Canal & Irrigation Co. against the County of Stanislaus, in this court, which was tried while you were superintendent of the canal company?

A. Yes.

X Q. 135. Now I will ask you if you testified in that case at the request of the canal company and as a witness for the canal company?

A. Yes sir.

X Q. 136. And while you were still in its employ?

A. Yes.

X Q. 137. Did you testify as follows in that case:

Q. With regard to the work done under your superintendence in maintaining and repairing that canal and in taking care of and distributing water, had the work been economical, economically done? A. Yes sir.

Q. Has anything, to your knowedge, been wasted or used in any extravagant or unnecessary work? A. No sir; not any.

1009 Did you testify in that way in that case?

A. I think I did; yes sir.

X Q. 138. Did you also testify as follows in that case:

Q. And what percentage of this water is lost by waste water, Mr. Rouse?

Then there are quite a number of objections before you answer that.

A. At different times of the year it is different. There are times when we have lots of surplus water, and that we can not sell, if we have no sale for it, of course we have either to run that water through into the river down towards Orestimba creek, a portion of it, or let it out at different places that we have.

Q. Then there are periods in the year in which you waste a great

deal of water, are there not? A. When we are not using it, we, of course, let that water go.

Q. It flows into the Orestimba Creek and Los Banos Creek? A. Los Banos Creek, yes.

Q. There are a great many waste ditches along the canal, are there not? A. There are not many waste ditches.

Q. Along the canal? A. No sir, there is Camp 13.

Q. Is there a waste ditch there? A. Yes sir, a slough. Los Banos Creek, Las Garzas Creek and Orestimba Creek; that is all.

Did you testify in that way in that case?

A. Yes sir.

X Q. 139. Did you also testify as follows:

Q. Then you do not know anything about a ditch that is on the books of this company, known as the Las Garzas waste ditch? A. That is the one I am speaking about. I say that we run water down that ditch. We have a big canal. We have a very small wasteway in Orestimba Creek. If they have a good canal and they shut off irrigating, and we have to get rid of that water in some way, we turn some of it out into Las Garzas Creek, a certain amount of it, because we cannot carry it on through the canal and waste it in Orestimba Creek. Our wasteway is too small. We have only got an 8-foot wasteway there.

Q. Most of the time of the year there is water running in the Orestimba Creek, is there not? A. No sir.

Q. There is not? A. There is not.

Q. I say, most of the time. Of course I know there are times when there is no waste water running, but most of the time during the year there is waste water running into Orestimba Creek, is there not? A. We are quite——

Q. Answer my question. Is there not waste water most of the year running through Orestimba Creek? A. No sir; there may be a little, but that is just what would naturally seep through the box.

Q. Is there not most of the year waste water running through Las Garzas Creek? A. No sir.

Q. And through the Los Banos Creek? A. No sir, not most of the year there is not. There are times when there is considerable water running down there. After a big rain, for instance, the creeks are full.

Q. I am not talking about those times. I am talking about the water from your canal. I do not mean from those creeks. There is water from Orestimba Creek running now, is there not? A. No sir; there may be at times.

1010 Q. You say there is none now today? This is June. A. If there is today, I don't know it. There has not been any running there for two weeks. I have been putting in a wasteway there. The wasteway washed out. Probably they finished it yesterday. There has been no water going down there for two weeks. That I am certain of.

You testified in that way, didn't you, Mr. Rouse?

A. Yes sir.

X Q. 140. Before you went to work for Col. Stevinson, or immediately after you left the employ of the canal company, didn't you go into the employ of the Irrigators' Association?

A. At Newman?

X Q. 141. Yes sir.

A. Yes sir.

X Q. 142. And you did some work for them, did you?

A. Yes sir; I was looking out for the water, to see whether it was wasted.

X Q. —. And you consulted with their attorneys?

A. No sir.

X Q. 144. You didn't come here and consult with their attorneys, here in San Francisco?

A. No sir; I never seen them, that I know, until yesterday.

X Q. 145. Well, not this attorney, but didn't you come here and consult with any attorneys of the company?

A. No sir.

X Q. 146. You have testified that you consulted with the attorneys for Mr. Stevinson in regard to Stevinson's case?

A. Yes sir.

X Q. 147. Did you also hunt witnesses up for that case that would be beneficial for them?

A. I told them where they could get witnesses.

X Q. 148. Now, Mr. Rouse, when you left the employ of the canal company what was your condition of mind in regard to that company?

A. Miller & Lux?

X Q. 149. The canal company.

A. Why, Mr. Miller says, "We have been together a good while. We have quit good friends." I says, "All right. I am perfectly willing. I have no kick coming. But before he left his seat he turned around and raked me fore and aft; to everything he could think of.

X Q. 150. And as a consequence at any rate you left in a 1011 very unfriendly frame of mind?

A. No, not when we quit. We quit with the understanding that we would be good friends.

X Q. 151. That was at the same time, the same day, as I understand it, that your mind changed?

A. Yes.

X Q. 152. And you ultimately did leave, then, very much embittered against the company, didn't you?

A. Not when I left, I did not. I have no hard feelings against them now.

X Q. 153. You are now very much embittered against them, are you not?

A. No sir.

X Q. 154. Haven't you had hard feelings against them since you left?

A. I don't think they treated me——

X Q. 155. You don't think they treated you entirely right?

A. Yes sir

X Q. 156. You never think of them except you think something evil of them?

A. Oh yes.

X Q. 157. Is not your mind as bitter against that company as it is against anything in the world?

A. No.

X Q. 158. You would do anything you could to injure them?

A. No sir; there is lots of things that ' could have done that I haven't done.

X Q. 159. You have done considerable, haven't you?

A. I don't know; that is a matter of record.

Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. Mr. Rouse, while you were superintendent of the canal company did any personal superintendent other that Miller & Lux turn on and take the water from the canal without asking you, or without your consent?

A. Not with my knowledge.

R. D. Q. 2. Now you testified in answer to cross-examination that you thought it was a good thing for the cattle to eat the grass in the canal, and you have also testified on your direct examination that the cattle tramped down the banks of the canal into the
1012 canal. I ask you whether or not the injury to the canal caused by such tramping of the banks into the canal is overcome or overbalanced by the cattle eating the grass in the canal?

Mr. TREADWELL: We object to that question. This is calling for the conclusion of the witness and not for facts. Of course he would be entitled to give his opinion as an expert on canals, whether or not the taking of these weeds was beneficial. He has testified that it was. He would also, as a man who actually knew the fact, be entitled to testify to the extent of the injury to the banks. But he should give us the extent of the injury to the banks and the extent of the benefit, and let us draw the conclusion as to which is the greater, and not give us his conclusion as to which is the greater without giving facts upon which to base that conclusion on.

The MASTER (after argument): I overrule the objection and will give the counsel for complainant the benefit of an exception. (Question read.)

A. Well, I think the tramping of the canal, and the tramping it in will do more damage than what little grass there is eaten—than what grass they take out.

Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. Now, Mr. Rouse, in regard to the cattle tramping in the canal, if the canal has certain slopes the amount of tramping does not injure the canal very much, does it? It depends on the slope of the canal, does it not?

A. It keeps crowding the dirt out into the canal, and the weeds and things will naturally grow on that more than if it was straight up and down.

R. X Q. 2. If a canal has reasonably perpendicular banks and cattle slide over it, they of course will throw down a great
1013 deal of silt. Now if, on the other hand, the canal has a good slope to its banks, so that cattle can naturally go down, they don't do nearly so much damage?

A. Well, they crowd lots of it in there.

R. X Q. 3. I asked you if they did as much damage when the banks are perpendicular as they did when the banks are sloping.

A. If they are perpendicular, and steep enough, the cattle ain't getting into it

R. X Q. 4. What I am trying to get at is, the more the slope there is to a canal, the less damage the cattle will do to it by tramping it down?

A. I don't know; but I know that wherever cattle comes in to drink and eat grass, they keep crowding the banks down. I have seen great holes cut out.

1014 Testimony of JOSEPH PFITZER, called for defendants, sworn.

By Mr. LANGHORNE:

Q. 1. Where do you live, Mr. Pfitzer?

A. At the present time I am living over in Berkeley, for the last two or three months, the last couple of months. Before that I lived in Ingomar, Volta, and in the neighborhood of Los Banos, for about 10 years.

Q. 2. That was in Merced County?

A. Yes sir.

Q. 3. Near the canal of the complainant in this case?

A. Yes sir.

Q. 4. You lived there up to a couple of months ago, you say?

A. Yes sir.

Q. 5. What was your occupation while you were living there?

A. Well, I was in sheep raising and farming and cattle raising.

Q. 6. Are you familiar with the complainant's canal?

A. Yes sir.

Q. 7. Do you know the character of the land and the value of the land there through which the complainant's canals run?

A. Yes sir.

Q. During, say, May and June, 1907?

A. Yes sir.

Q. 9. Now what was the value of those lands by the canal, or through which the canal ran, in May and June, 1907, commencing at the head of the canal, and for eight miles from the head of the canal, for that distance?

Mr. TREADWELL: I object to that question on the ground that Mr. Pfitzer may have sufficient experience to answer that, but

I don't think any foundation has been laid for it so far, except by the general statement that he knows the value of the lands.

(By Mr. LANGHORNE:)

Q. 10. I will ask you, Mr. Pfitzer, how did you come to know the value of the lands along this canal?

1015 A. Well, I have bought some of it, and I have been—that is, the estate has sold some of it. I have run sheep over the country above there. I know the value of it as grazing land, and I have farmed a good deal of it.

Q. 11. You have kept track of sales of it—sales of the land along there?

A. I remember the sales of some of them.

Q. 12. You knew of the sales?

A. I knew of the sales, yes, sir.

Q. 13. You knew the character of the land?

A. I knew the character of the land.

Q. 14. And you know what lands of that character are selling for in that vicinity?

A. Where there is any land sold, yes.

Mr. LANGHORNE: I submit that the witness has qualified.

The MASTER: Proceed.

(By Mr. LANGHORNE:)

Q. 15. Now coming back to my question: In regard to that portion of the lands occupied by the canal from the headworks for 8 miles towards Firebaugh——

A. The main canal?

Q. 16. The main canal. What in your opinion is that land worth?

A. With the canal there, as it is?

Mr. TREADWELL: Just a moment. That is a matter that the witness has not shown any ability to testify to, that is, if the question were interpreted in a particular way. I suppose counsel means to ask: What is land right along the canal, which could be irrigated from the canal, and under the benefit of it—what is it worth? But if he means to ask the witness the value of the land that the canal is really on, with the canal there, that would include the value of the canal. I don't suppose he means that.

Mr. LANGHORNE: Your own questions could only have been directed to that.

Mr. TREADWELL: I did not so intend it. My witnesses testified as to what land was worth along the canal which was irri-

1016 gated.

Mr. LANGHORNE: I want to follow your lead in that. And that is my understanding.

Q. 17. It is the main region alongside the canal that is capable of being irrigated from the canal.

A. Well, I would have to ask a question or two to answer that properly. Take the land along from the slough there, on the main

canal a little closer than Firebaugh's, I think that is worth just as much without the canal as it is with the canal. I think for grazing purposes along the slough there it would be worth $5 an acre. If it was not along the slough there, then it would not be worth that.

Q. 18. Then it is worth $5 an acre, in your opinion, whether there is a canal there or not?

A. It is worth $5 an acre, whether there is a canal there or not.

Q. 19. That is, land right alongside of the canal?

A. On the main canal, yes.

Q. 20. Then Firebaugh, I believe, is about 8 or 9 miles from the head of the canal?

A. Something like that. I am not positive as to the distance.

Q. 21. From an 8-mile point from the head of the canal to the Merced County line, what is the value of the land right along the canal?

A. I don't exactly know where the Merced line is; but that land is all about the same character, from there on to a little side of Camp 13. It is all very poor land, and I think, $2.50 an acre would be a very big price for it. That is all alkali.

Q. 22. Camp 13 is in Merced County, is it not?

A. Yes sir.

Q. 23. How far south of the town of Los Banos?

A. Well, I think it is about 8 or 9 miles.

Q. 24. We will take Camp 13 as a limit; from 8 miles from the head of the canal, we will say, to Camp 13.

A. About $2.50 an acre would be a good price for it.

1017 Q. 25. What is the character of the land?

A. Very poor land; alkali.

Q. 26. Then from Camp 13 to Volta in Merced County, what is the value of the land along the canal? You understand, Mr. Pfitzer, the canal being there, you understand, and from which the land can be irrigated.

A. Well, there is a great deal of poor land over there, from there down, and there is some good land. Take it all the way through there, I think about, say $30 an acre would be a big price for it. It is hard for me to give you——

Q. 27. That is, from Camp 13 to Volta?

A. Yes sir.

Q. 28. If there was a canal there what would the land be worth along the canal?

A. Well, it would not be worth over $2.50 or $3 an acre, I don't think.

Q. 29. Now from Volta to about three miles below San Luis Creek, what is the value of the land along there, along the canal, land that is capable of being irrigated from the canal?

A. Well, land that is capable of being irrigated?

Q. 30. Yes.

A. There is very little of it that is capable of being irrigated. Oh, you mean with the canal there?

Q. With the canal there, yes.

A. Well, I should say $5 an acre.

Q. 32. Well, if there was no canal there what would it be worth?

A. About the same price, or very close to it.

Q. 33. Then from a point three miles below San Luis Creek to the end of the canal, what do you think the land would be worth along the canal?

A. With the canal there?

Q. 34. Yes.

A. Well, call it $90.

Q. 35. And if there was no canal there what would it be worth?

A. $25 to $30.

Q. 36. State whether or not cattle are in the habit or grazing, pasturing, along the banks of this canal.

A. Mr. Miller's cattle are.

1018 Q. 37. At what points?

A. Well, all the way from what is called the upper county road, what is called the upper road in Merced County, pretty near south of Newman, to the head of the canal, at different points.

Q. 38. Mr. Miller's cattle. Do you mean Miller & Lux's cattle?

A. Yes sir.

Q. 39. Is the canal fenced at those points where Miller & Lux's cattle graze along the canal?

A. Not on the outside.

Q. 40. Are there cattle of anybody else besides Miller & Lux's grazing along the banks of the canal?

A. Now and then a few stray animals; but no, not pastured there, no.

Q. 41. What effect, if any, has this grazing of cattle along the banks of the canal, had upon the banks of the canal?

A. Well, they naturaly tramp the banks down, muddy up the water. I see the water very dirty all the way down the canal, from the cattle standing in the water. You know cattle, in the summer of the year, when it is warm, if they have any grubs on them they tramp up and down the canal, walk up and down in the water and stand there. They don't only go in there to drink. They go and stand there.

Q. 42. You say they tramp the banks of the canal down?

A. Yes sir.

Q. 43. Where does the material, the earth, from the bank, go, when they tramp it down?

A. Naturally into the bottom of the canal.

Q. 44. Into the canal?

A. Yes sir.

Q. 45. Is that done to any great extent along the canal where these cattle are?

A. In some places, yes.

Q. 46. Now in regard to fencing along the canal, you say that the canal is fenced in some places?

A. Well, on alfalfa ranches—in fact, very near all the land below the old canal is fenced in fields and stepped.

(By Mr. TREADWELL:)

Q. 47. Below the old canal?

A. Below the main canal.

1019 Q. 48. You mean below Los Banos Creek?

A. Yes, I mean the main canal. Below the main canal, wherever the land is in alfalfa fields or belongs to different parties, except Miller & Lux, it is fenced in fields.

(By Mr. LANGHORNE:)

Q. 49. Do you know who put up those fences?

A. The different parties that owns the land.

(By Mr. TREADWELL:)

Q. 50. Just answer whether you know it.

A. Yes sir.

(By Mr. LANGHORNE:)

Q. 51. The owners of the land, or the canal company?

A. The owners of the land.

Q. 52. I forgot to ask you whether the branch canal—I believe it is called the Dos Palos Canal—which runs down into Merced County—look at Exhibit 2 there.

A. Yes sir.

Q. 53. What is the value of the land there, along the Dos Palos Canal?

A. Well, I have been over the Dos Palos canal there occasionally, but I have never followed the banks down. I know there is some good land there; a good deal of fair land. I don't know as my judgment would be as good on that as it would be on the last.

Q. 54. According to your best judgment what would it average?

A. About $30, I should say.

Q. 55. With the canal there?

A. Yes sir.

Q. 56. If there was not any canal there what would it be worth?

A. It might be $5.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. You never lived, Mr. Pfitzer, nearer the head of the canal than Los Banas, as I understand it?

A. No, I have lived—well, that is years ago, but I lived close to Los Banos before there was any canal there. But my home place is at Ingomar. I have never lived near the head of the canal.

X Q. 2. While you were living down there what was your business?

A. Farming and stock raising.

1020 X Q. 3. You have never been in the real estate business?

A. No sir.

X Q. 4. Taking land in Fresno County, between the canal and the river, have you ever owned any land in there?

A. No sir.

X Q. 5. Have you ever sold any land in there?

A. No sir.

X Q. 6. Do you know of any sale of any land in there?

A. Oh yes, I have heard of many sales being made there.

X Q. 7. Have you ever heard of any sales that you knew of your own knowledge what the selling price was?

A. I know that Miller & Lux put that land on the market for $40 or $50 an acre.

X Q. 8. Now I am talking about land in Fresno County.

A. Well, there is some of that in Fresno County.

X Q. 9. You know that some of that was sold at from $40 to $50 an acre?

Mr. LANGHORNE: Is this under the canal?

Mr. TREADWELL: Between the canal and the river.

X Q. 10. That is it, is it?

A. Yes sir.

X Q. 11. You know that that land was sold in there for $40 to $50 an acre?

A. There was some of it sold higher than that.

X Q. 12. How high?

A. I could not say what pieces might have been sold at, small pieces, how high it might have been sold.

X Q. 13. Do you know of any sales of any land in Fresno County above the canal?

A. Yes sir.

X Q. 15. How close to the canal?

A. Fresno County.

X Q. 16. Yes.

A. Well, it is quite a little ways from the canal. I don't know exactly how close it comes to the canal.

X Q. 17. Well, it would be land that was not irrigated?

A. Yes sir.

X Q. 18. What would that kind of land sell for, the sales that you know?

A. Well, there is a tract by there, up towards the Pinoche that sold for $4.25 an acre.

X Q. 19. That is grazing land; not irrigated?

A. Yes sir.

X Q. 20. And not capable of being irrigated?

A. Yes sir.

1021 X Q. 21. I mean, not capable of being irrigated with this canal.

A. Yes sir.

X Q. 22. Now do you know of any other sales in Fresno County below the canal, of land that is irrigable from this canal that has been sold, beside those that Miller & Lux put on the market?

A. No sir. I don't think there is any. I think Miller & Lux owns it all.

X Q. 23. The only sales that you do know, in there, sold at $40 to $50 an acre, or probably higher?

A. Yes sir.

X Q. 24. That is right, is it?

A. Yes sir.

X Q. 25. Now in the Dos Palos colony, there has been a great deal of land sold in there, has there not?

A. Some of this land that I speak of sold, was Dos Palos colony land.

X Q. 26. Yes, but the greatest part of the Dos Palos colony is in Merced County?

A. Yes sir. I want to tell you, I don't know where the Merced line is.

X Q. 27. You don't know where the Dos Palos line is?

A. No sir; not right there I don't.

X Q. 28. Coming back, then, to the Fresno County land that you refer to as being put on the market by Miller & Lux and sold at $40 to $50 an acre, where is that located?

A. On the Dos Palos colony.

X Q. 29. And that is the only land that you know of being sold?

A. Yes sir.

X Q. 30. Are you acquainted with the Helm ranch?

A. No.

X Q. 31. You have never been over it?

A. No sir.

X Q. 32. Do you know how much it sold for?

A. No sir.

X Q. 33. Do you know how many acres there are in it?

A. No.

X Q. 34. Do you know what you would pay for it?

A. I don't know any thing about the Helm property.

X Q. 35. You don't know anything about it?

A. No sir.

X Q. 36. That land is under this canal isn't it. Do you know that?

A. No I can't tell you that for certain, not from my own knowledge. When I have been down in that country there was
1022 no canal there. I have always been down through the Dos Palos Colony and along the canal along Firebaugh's and down along the river, but down there, down along the river below that Colony I am not acquainted with it.

X Q. 37. What did you have to go to the head of this canal for?

A. I had to go to the head of this canal, up to the dam.

X Q. 38. Yes?

A. I don't know as I was ever right up to the dam. I was up at the dam at Fresno slough and further over to the river, but I don't know as I was ever right up to the dam.

X Q. 39. From the head of the canal have you been along into the vicinity of the Dos Palos Colony?

A. I only have been there in the summer.

X Q. 40. When?

A. In the summer, but not during the last 40 years. It was away back. I could not tell you.

X Q. 40. What were you up there for?

A. I have been up to Tulare Lake and bought some cattle and I

have been travelling through there and driving down the canal, at one time. I have got a brother-in-law who lives up in close to Yale City. I went back and forth to his place. I went through there. I came down over that road to Merced by Dos Palos. I have been pretty near up there to buy calves and cattle; general business. I have herded sheep there through part of that country years ago.

X Q. 42. Referring to defendant's Exhibit "J" page 18, of that exhibit, what do you know about the land there that is marked in red and in yellow? Have you been over that?

A. I don't know what land it is, from the map.

X Q. 43. You see the location of it, don't you, with reference to the river, with reference to the main canal?

A. Well you would have to explain to me. I don't know where it is from the map. I don't know where I am.

1023 X Q. 44. You see this map here now, this first part, here, takes in the land between the San Joaquin river and the main canal, beginning at the head works. Now you see the piece that is marked "Helm place" there. That is the piece I refer to when I say "Helm place?"

A. I have never been over that. I told you I haven't been over that.

X Q. 45. Do you know what it is cultivated to?

A. No.

X Q. 46. Now taking the land here that is marked on that same map, and almost immediately adjoining the land in yellow, do you know what that land is cultivated for or whether it is cultivated at all or not?

A. If you will mark off Firebaugh's and the Davis ranch and Camp 13 and the different roads, I will give you the information, but from that map I am going to get mixed up. I can't do it.

X Q. 47. Let me explain it to you. This map does not go down as far as Firebaugh's. It begins at the head, and each one of these are sections, a mile long; and here is where the outside canal takes out of the main canal?

A. This is between the slough?

X Q. 48. Between the river and the canal?

A. And the China slough?

X Q. 49. Yes?

A. I don't think I can answer that question.

X Q. 50. You don't know what that is cultivated to?

A. No, I know that right along the slough it is not cultivated at all, but what is in further to the river, I don't know what there is from the road, but I have been in there.

X Q. 51. Do you know whether that land along there is capable of being cultivated?

A. Along the river?

X Q. 52. No, the land along the slough, along the canal?

A. It is not first class land. It might be possible that in from the slough, in toward the river, there is land that could be cultivated, without a doubt.

X Q. 53. What is the difference between that land and the
1024 land that is right up against the slough which has had the benefit of natural irrigation ever since the times when the memory of man ran not to the contrary?

A. It is not cultivated. It is just grazing land along the slough.

X Q. 54. I know, but do you mean to tell me that that land along the slough is not better land than that away from the slough?

A. I don't know. I know it is not very good land along the slough. Along the river bank I suppose it may be better land.

X Q. 55. You stated that you thought the land along the slough was just as good before the canal was there as it is now. That is, you mean if the water could be gotten out of the slough onto that land, it would be just as good as if it was taken out of the canal? That is what you mean isn't it?

A. I don't understand the question.

X Q. 56. Well, what do you mean when you say the land would be just as valuable before the canal was there, along the slough, as when the canal was there?

A. Because it was grazing land. They haven't farmed it along the slough. They don't farm it. They don't do anything with it next to the slough. This is just canal land.

X Q. 57. The value of land does not depend entirely upon what you do with it, does it?

A. Well, the country there has got so that whenever they find a piece of land that is valuable they put it to some use. Sometimes they find a piece of land that by actually looking at it you think it is no good, and they find by trial that it has a fair value.

X Q. 58. What I mean is, if that slough was there, if there was no water on that land, it would not be of the same value that it would if there was water there?

A. No I don't know as it would if there was not some way of getting water on it.

X Q. 59. I understand that, but it is because the water would be there in the slough, that would give it value?

1025 A. Yes, if it was not I would not value it at more than $1.25 an acre.

X Q. 60. Not more than $1.25 an acre? How far do you intend to run down from the head of the canal at the first value you gave—$5 an acre, was it? How far would you run?

A. *Down* A. Down close to Firebaugh's there.

X Q. 61. Do you know whether there is any land along that canal in Fresno county, right along the side of the canal, that is cultivated?

A. Do you mean below the main canal?

X Q. 62. Yes.

A. There is land cultivated between the two canals, if that is what you mean.

X Q. 63. Is there any cultivated below the main canal?

A. I think there is a little piece, if I remember right, but a very small piece.

X Q. 64. Do you know what it is cultivated to?

A. Grain.

X Q. 65. Looking again at that page 18 of that exhibit, and at the land marked on that in yellow and red, and locating yourself with reference to the next page, 17, so as to get your location, where Firebaugh is with reference to that map, is that land that you see there, cultivated?

A. Which? This land?

X Q. 66. All the land that you see colored on that map.

A. I can't locate myself with that.

X Q. 67. You can't say that all that land——

A. I say that I can't locate myself on that map.

X Q. 68. You locate the main and the outside canal on that map, don't you?

A. Down here?

X Q. 69. Yes, you see them there don't you?

A. Yes sir.

X Q. 70. You see the San Joaquin river there don't you?

A. Yes sir.

Q. 71. You see the place where the canal heads out of the San Joaquin river don't you?

A. Yes sir.

X Q. 72. And you know that the land that runs between those two, the land that lies between those two is the land that lies between the river and the canals?

A. Yes sir.

1026 X Q. 73. That is clear enough to you isn't it?

A. Yes sir.

X Q. 74. Do you know whether that land that is in that space there, and which is colored there, is or is not cultivated land?

A. I know that this strip along the canal here is not cultivated. What is over against the river, I mean opposite, I don't know. I told you that before.

X Q. 75. In other words, it is the strip along the part of the China slough, which forms part of the canal, you know that it is not cultivated?

A. Yes sir.

X Q. 75. But besides that you don't know anything at all about that land, clear over to the river?

A. Clear over to Madera.

X Q. 76. That you don't know anything about?

A. No, I am not posted, piece by piece.

X Q. 77. So you are basing your opinion as to the value of this land on the land or strip that you see right alongside that slough?

A. I am basing it on what land the canal is actually on.

X Q. 78. If the land just off the canal, just outside of the right of way of the canal, if that land is all cultivated or capable of being cultivated, pays to irrigate, and pays anywhere from $1.25 an acre down, would that affect your ideas as to the value of that land, any?

A. You find land that is under that canal system where the land is comparatively good, and then 50 yards off or 25 yards off it would not raise anything.

X Q. 79. Yes, but taking the whole canal, through that whole territory there, through Fresno county, would you make that a ridge of comparatively little value, without knowing anything about the value of the land midway?

A. The value of the land depends on the canal and the actual grade of the land, the actual quality of the land which is alkali.

X Q. 80. Is there any more alkali in that little strip of
1027 land that constitutes the right of way of the canal running along there by China slough than there is on the land a few hundred yards from it, and which is marked yellow on that map?

A. I don't know how far it is over there and I don't know what it is over yonder. This runs over an alkali country.

X Q. 81. You know that alkali land, if irrigated, the alkali can be washed out and it will become just as fine as any land, do you not?

A. I do not.

X Q. 82. You don't know that land that is alkali has had the alkali washed out of it and has become first class alfalfa land?

A. I know land that has been under water for thirty years, and it ain't turned into good land yet. There may be some land that may be made good land. I know that where there is any great amount of alkali it never can be washed out. Where there is too much alkali it won't be washed out enough to raise alfalfa.

X Q. 83. Do you know how much per acre can be made off of the land that is marked yellow and red in this Exhibit 18?

A. No sir.

X Q. 84. Do you know what Miller & Lux make off of that land?

A. No sir.

X Q. 85. Do you know how much they pay for water a year on it?

A. No sir.

X Q. 86. Now taking the next sheet on that map, number 17, and calling your attention to the land between the main canal and the San Joaquin river which is colored on that map, do you know which part of that land is cultivated land?

A. I know that next to the canal there is not any of it cultivated. I also know that that land you have got colored there along the river, is patches of good land and patches of poor land. It is mixed land. But as to designating it on that map, I can't do it.

X Q. 87. Now immediately to the northeast of the canal
1028 is the railroad, isn't it, along by Firebaugh's? The railroad runs through there on that map, and along there, near Firebaugh's, falls down parallel with the canal, does it not?

A. Yes sir.

X Q. 88. You mean that between the canal and the railroad, that that is not cultivated? Is that the idea? We are only a couple of miles from Firebaugh's on this map.

A. The railroad track doesn't run for no couple of miles there along the canal.

X Q. 89. Does not the railroad go alongside to Firebaugh, and does not that parallel, practically, the canal, somewheres near?

A. I don't know exactly. It runs through alkali. There is nothing below the railroad. I don't mean to divide that strip of land by the railroad; but there is nothing there to speak of.

X Q. 90. Now beyond the railroad, between the railroad and the river, how much of that land on that map is cultivated?

A. None.

X Q. 91. You know how much of it is capable of being cultivated and raising crops?

A. No sir. I know some of it is ridges and swamps and sloughs and everything else. The Poso ranch is in there. I don't know where it is on that map. I know there is some very good land and some poor land.

X Q. 92. I am giving you that map to help you out?

A. That map does not help me any. If anything, it mixes me up. If you had one map with the whole canal marked in it with the different places and roads that we travel and go through there I would explain it to you, the different places.

X Q. 93. Do you know what the rental value of the land is? Do you know what any of that land does rent for, what it is rented for, anywhere below the canals of the complainant, from the head down to Firebaugh and between the canal and the river?

A. Along the river? No sir.

1029 X Q. 94. Now from Firebaugh between the canal and the river and down to the Poso canal and Poso slough—now have you got that strip in your mind?

A. Yes sir.

X Q. 95. Do you know how much of that land in there is cultivated?

A. How much? No sir. I know there is land cultivated, land that is swamped and land that is farmed through there, but how much, I don't know.

X Q. 96. Do you know of any land in there that is rented?

A. No sir.

X Q. 97. Do you know the rental paid for any of that land in there?

A. No sir.

X Q. 98. Did you ever know of a piece that was sold in there?

A. Sold up in about the colony?

X Q. 99. Yes, between the colony and up next to the river.

A. To the river?

X Q. 100. Yes sir.

A. I am not posted in there. I don't know.

X Q. 101. Clear up to the colony, do you know of any piece that was sold in there, clear up to the river?

A. I don't think any of it was ever sold. I think it all belongs to Miller & Lux.

X Q. 102. That is what I am asking about.

A. I don't think any of it has been sold, as I have not heard of it.

X Q. 103. Do you know this land which is shown on page 17, between the main colony and the outside canal, the land below Firebaugh?

A. Yes I have been all through that land.

X Q. 104. That is not cultivated?

A. Some of it is cultivated.

X Q. 105. What is it cultivated to?

A. Grain.

X Q. 106. How much is that land worth?

A. Well there is a strip of land in there I should think it is worth about $25 an acre. The land there is better along the outside canal than it is along the main canal.

X Q. 107. Take this land under the main canal as it crosses
1030 over the railroad, between there and the river. You say you have never been over that land at all?

A. Between there and the river?

X Q. 108. Yes.

A. Yes, I have been all along next to the canal, but I have never been down along the river. It is too hard to get in there unless you go in through the ranches.

X Q. 109. Had you ever been in between the river and the railroad at all?

A. I have been along the railroad there. I don't know which side of the railroad the road is on. I have been all through there.

X Q. 110. Taking this strip of land that the canal is on, on this page 17, and taking the strip right alongside of it there, above it, between the main canal and that point, you say it is worth $20 to $30 an acre?

A. I didn't say $20 to $30. I said $20.

X Q. 111. Is the land that is in there less valuable or more valuable?

A. On the main canal?

X Q. 112. Yes.

A. Less valuable.

X Q. 113. In other words, the strip of land alongside of the piece that is cultivated and irrigated——

A. Do you mean to say the land just between the main canal and——

X Q. 114. No.

A. I mean that the land along the outside canal is more valuable, along here, than the land along the main canal.

X Q. 115. I understood you to say that, but now I am asking you, taking a strip of land immediately above the right of way of the canal.

A. Yes sir.

X Q. 116. Toward the outside canal.

A. Yes sir.

X Q. 117. And comparing that now with the strip of land with the canal—the strip of land that the canal right of way is on, I say, is there any difference in value between those two?

A. It is practically the same.

X Q. 118. What is the difference between the land that
1031 that canal is running over there, out from Firebaugh, and this on page 17, and the land immediately below that, but between there and the railroad?

A. No difference. That is all about the same proposition there. That is all kind of alkali and adobe. They don't farm it. They don't do anything with it.

X Q. 119. You say it is worth $20 to $30 an acre don't you?

A. No sir.

X Q. 120. What is the difference between the two?

A. More alkali. I would like to explain that proposition from beginning to end, in that canal.

X Q. 121. Well it is a matter for your counsel to examine you upon. You can answer my question now.

A. I want to answer it by explaining it.

X Q. 122. Of course you have a right to explain your answer if you propose to explain that; but I don't want anything that is not explanatory of that answer.

A. I want to explain the proposition. That canal runs from the slough all the way down to the river, all the way down the valley, at a certain grade, to a certain distance from the line. The high land slopes right off into alkali. I can show you a place along that canal bank when it was first built, on the main canal, where the lower bank was almost pure alkali and the upper bank had some good dirt in it. That divides it. That is a kind of dividing line, where there is a ridge, some sediment, the ridge runs across it, and that is down below it, where it runs through those ridges until you come down to the cottonwoods or near the cottonwoods. And when you come to this upper canal here. It is little above that alkali belt.

X Q. 123. That certainly explains your testimony very well. In giving your testimony you are running this canal practically down a stretch of alkali which does not exist on either the right of it or the left of it.

1032 A. Yes it does exist below the canal. Wherever it exists on the canal it exists below the canal until you get into the river land. When you get into the river land, there are strips of river land that is on these different swamps.

X Q. 124. Now let us take this particular case. Referring to this page 17, is your mind there on that page, so as to see where the canal is?

A. Here is the canal, this half mile of the canal. That is all about the same thing. But when you get close to the river there, I don't know where it is. There are places in there where they raise alfalfa and grain and all those things. I can't point them out there on the map.

X Q. 125. Now following on down the canal, take the land as shown on page 16 there, of that exhibit, the Poso canal, in the middle of it, do you know how much of that land between the outside canal and the main canal is irrigated, cultivated?

A. That is the same land, pretty near, that you spoke about before; just a little below it. Well there is some cultivated land along there. I don't know how much.

X Q. 126. Isn't it cultivated right up to the canal, or not?

A. The main canal?

X Q. 127. Yes.

A. In places, pretty close to it.

X Q. 128. How much is that land worth?

A. Well it ain't very good. They have to irrigate it 4 or 5 times for a crop. They don't get very good crops on it. $20 an acre would be a very big price for it. I don't believe they are farming on that any more. I think the alkali is rising on it and driving them out.

X Q. 129. Don't you think they irrigated last year, or paid for irrigating?

A. I can't say.

X Q. 130. You don't know do you?

A. It would not have paid me if I had to irrigate it and pay for the water. I am positive of that. I would not have paid for
1033 the water to put on to irrigate it.

X Q. 131. So that if Mr. Miller did irrigate that land he did not get paid for doing it?

A. No sir. I am positive it would not have paid me to pay for the water.

X Q. 132. Do you know of the sale of any land in between those two canals in that vicinity?

A. No sir.

X Q. 133. Do you know of the renting of any land in there?

A. No sir.

X Q. 134. You don't know what they produce?

A. Principally barley; maybe a little wheat. What I have seen of it there has been very little of that.

X Q. 135. Now taking that same page 16, and the land below the canal there.

A. The main canal?

X Q. 136. Yes.

A. It is very poor.

X Q. 137. And below the railroad. Have you been through there?

A. Yes.

X Q. 138. Do you know how much of it is irrigated?

A. Where is that?

X Q. 139. There below the Poso canal. Have you been over that?

A. Yes sir. I have been through there.

X Q. 140. Do you know how much of it is cultivated?

A. Between the railroad and the canal?

X Q. 141. No no; between the railroad *the* the river.

A. Oh I don't know how much is irrigated between the railroad and the river.

X Q. 142. You have gone along the canal, and that is about all you have done, is it not?

A. I went along the canal only from Dos Palos. I went along the railroad and went all through that country.

X Q. 143. Taking the land along there with reference to the railroad, in through there.

A. North of the railroad?

X Q. 144. Yes.

A. Well along through there there is very good land, and
1034 there is patches of it that is irrigated in there.

X Q. 145. Do you know how much of it is cultivated?

A. No sir.

X Q. 146. Do you know of any of it being sold outside of Dos Palos colony?

A. No sir.

X Q. 148. Do you know of any of it being rented in there?

A. No sir I don't think it sells nor rents.

X Q. 148. Do you know what it is cultivated for?

A. Right immediately close to the railroad?

X Q. 149. From the railroad clear over to the river.

A. That is what I have been trying to explain. Next to the river you are trying to get in a piece of the sediment land, along the river, and make the value equal to what I have testified to out of the canal, which is entirely different. There is no comparison at all.

X Q. 150. Well if you will look at the map there, the main map, Exhibit 2, you will see that there is considerable land between the river and the canal.

A. Yes sir.

X Q. 152. Now have you ever been down to Dos Palos slough?

A. Well I have crossed it. I have not been up and down it, no.

X Q. 154. Do you know whether or not there is land in there that is irrigated from this canal?

A. I have no doubt but what there is.

X Q. 155. Do you know what it is worth?

A. No sir.

X Q. 156. You don't know what you would pay for it?

A. Oh what it is worth?

X Q. 157. Yes.

A. Oh, What that land down there is worth?

X Q. 158. Yes.

A. Oh, there is some good land along the river. I can't tell no particular place.

X Q. 159. I am talking now from the railroad clear through to the river there.

A. Along there?

X Q. 160. Yes.

A. Under irrigation?

X Q. 161. Yes.

A. Oh, that is a different proposition.

1035 X Q. 162. That is the proposition I am trying to get at.

A. Oh, going down next to the river?

X Q. 163. I am not going down next to the river. I am talking of the land clear down to the river.

A. It is pretty hard to estimate because there is some poor land and then there is good land.

X Q. 164. Do you know how much land is irrigated from this canal?

A. No sir.

X Q. 165. Do you know any that is irrigated from this canal?

Have you got your mind in any one piece there in the neighborhood of Dos Palos slough that is irrigated from this canal?

A. My mind on any particular piece? I don't know that section, myself. I don't know the different places. I don't know how I could get my mind on a particular piece.

X Q. 166. Do you know of any piece between the railroad and Dos Palos slough?

A. Yes I can see plenty of it now. I can see it with my eyes, looking at it, but I could not explain it to you.

X Q. 167. How much is land worth in there that is irrigated by this canal?

A. If it is irrigated it is worth probably from $20 to $60 an acre.

X Q. 168. Now taking the land in Dos Palos colony, what does that land sell for now?

A. At the present time?

X Q. 169. Yes.

A. Well I don't hardly know. There has been a little raise there.

X Q. 170. You say you don't know?

A. Just at the present time what its market value is I don't know.

X Q. 171. When did you know last?

A. Well I know it was put on the market at $40 or $50.

X Q. 172. How long ago?

A. I know it was years ago.

X Q. 173. I mean how long ago did you know about the selling price down there?

A. Oh I don't remember any particular time. I think the land in there now is pretty well bought up, and I think probably
1036 they would ask $75 or $80 for the best land.

X Q. 174. Don't you know that it has even sold a good deal higher than that?

A. Yes, maybe it has, with the improvements; but I am talking about the value of the land, not the improvements.

X Q. 175. Now you know the network of the canals, you might call them, forming part of the Dos Palos system, don't you?

A. I know that there is a Dos Palos canal and distributing ditches.

X Q. 176. There is quite a number of branches of the Dos Palos canal isn't there, that belong to this company?

A. That belong to that system, yes.

X Q. 177. Have you ever been over them?

A. I can't say that I have. I have crossed them where the road crosses.

X Q. 178. Each one of those does not run down a ridge of alkali does it, practically separating all the land on both sides of it?

A. No sir.

X Q. 179. The land on which the canal right of way is, is substantially the same as the rest of the land is, in that colony, isn't it?

A. Yes, after it gets down to the county line.

X Q. 180. Well there is very little else but good land on the Dos Palos is there?

A. Oh yes there is a great deal of poor land.

X Q. 181. Do you know any way down there, say between the river and the outside canal of the complainant, where a canal company could get down there now and find a ridge of alkali, poor land, that they can run all the way down if they want to build a canal, and get it as cheap as you have said this land is worth that the canal is on?

A. Where do you want to get out?

X Q. 182. Anywhere. If you wanted to build a canal there now and take it out in substantially the same place that this canal takes out, and carry it down to the farmers down in Stanislaus
1037 county and run it anywhere in that country between the river and the outside canal, could you find anywhere a strip of land which you deem proper——

A. If I had water I can go outside the canals without any price——

Mr. TREADWELL: I move to strike the answer out.

X Q. 183. If you wanted to build a canal there now, where would you go?

A. You could take the canal down between the river, crossing around, but you would not allow us to cross your laterals. The damage would be too great, crossing your laterals.

X Q. 184. I am not asking you about it in that way.

A. I don't see what other way you have put it. If that canal was not in there the land would still be worth $1.25 an acre. Mr. Miller would not pay any more for it either.

X Q. 185. What I mean, Mr. Pfitzer, if you take a 200-foot strip of land from the present head of our canal at the river, and run it down through those three counties, anywhere between the river and our present outside canal, irrespective of any improvements that had been put on it, just leaving the land in its natural condition, is there any place you could run all the way down there which in your opinion would be on cheaper land than the canal is now on?

A. I would like to explain that question before I would answer it, so my answer would be sensible.

X Q. 186. I will withdraw the question. Now Mr. Pfitzer, take the land between the main canal and the outside canal, right through Merced county, what would you say that land was worth?

A. Between the two canals in Merced county?

X Q. 187. Yes.

A. That would be from Dos Palos south?

X Q. 188. Yes that is it.

A. Down to the south of Los Banos—hardly south; I would say down to within 2 miles and a half or 3 miles from Los Banos
1038 creek it is very poor. It is not farmed out there. I would not think it is worth more than $2.50 an acre, at the most.

X Q. 189. Is there no land farmed between the outside canal and the main canal?

A. From Dos Palos down I don't think there is any farmed until you get down towards Charlestown. I guess it is a little farther from the creek than I said.

X Q. 190. How much did you say that is worth?

A. About $2.50 an acre.

X Q. 191. Is there any under irrigation?

A. I don't think so.

X Q. 192. None irrigated there at all? Now take it from Los Banos.

A. They built up on there once and tried to raise some grain, but they didn't get it in. There was a place up there, and they are still trying to farm it there I believe.

X Q. 193. Do you know of any land that is irrigated below the canal and between the Merced county line and Los Banos, below the main canal?

A. Down to camp 13?

X Q. 194. Yes, down to Los Banos.

A. Well there is a few little places right close to Camp 13, below the canal, that they tried to raise something on; There was nothing in it, that I know of.

X Q. 195. Do you know how many head of cattle are kept on that land?

A. What? On that alkali country?

X Q. 196. Well, never mind; between that line and the Los Banos.

A. When you get further down from the river, farther away from the river, there are swamps, and there would not be very many kept to the acre. I can't tell you.

X Q. 197. Do you know whether that land will keep cattle, or how many cattle it will keep?

A. I don't know but I don't think that 2 acres will keep one animal for a year.

X Q. 198. Now from Los Banos down to say San Luis creek, do you know what land is worth there, between the two canals?

A. From Los Banos, south of the town of Los Banos, or on
1039 Los Banos creek?

X Q. 199. From Los Banos creek to San Luis creek.

A. From Los Banos creek to San Luis creek, well there is about a mile and a half in there, of good land; that is, comparatively, some of it very good land.

X Q. 200. Do you know of any sales in there?

A. No I don't recollect of any sales being made in there.

X Q. 201. Do you know of any rentals in there?

A. Yes sir.

X Q. 202. What does land rent for in there?

A. Some of the best alfalfa land there, fenced in, maybe, would rent for about $10 an acre; maybe $12. I think my brother rents his in there for $10. I think that is right. I would not be positive.

X Q. 203. Do you know of any land rented in there?

A. No sir, that is, up to that couple of miles that I spoke of. You get further down there and the land is poor. The land is quite poor

in there. I have been along it and I happen to know it because my old home place is in there. I know that whole country. That is farmed with grain. It would not do for raising alfalfa.

X Q. 204. Is that situated between the 2 canals?

A. Yes sir.

X Q. 205. How far was it from San Luis creek?

A. The closest of it was within a mile.

X Q. 206. How many acres did you have in there?

A. Between the canals?

X Q. 207. Yes.

A. Oh something a little less than a section between the canals.

X Q. 208. Have you sold it?

A. Some of it has been sold. A piece of it was sold the other day.

X Q. 209. What was it sold for?

A. $12.50 an acre; $12 or $12.50 an acre; I don't know which.

X Q. 210. What do you hold the rest of it for?

A. Outside?

X Q. 211. No, between those 2 canals.

A. I have not got the *the* selling of it. It belongs to the 1040 estate. Some of it belongs to my sisters and some to my brother. My sister sold this piece.

X Q. 212. Have you any interest in it?

A. No sir. I have got some just outside of it, outside of the canal.

X Q. 213. Now take between Los Banos creek and San Luis creek, below the main canal, say between that and the railroad, do you know of any sales of any land in there?

A. I don't think there has any been sold within a year or so.

X Q. 214. Well, before that.

A. No I don't recollect of any just now. The most of it belongs to the wood company of Miller & Lux up to Volta. Yes, I do know some of it was sold or bought in that country there.

X Q. 215. Well what was it sold for?

A. I think $5 an acre.

X Q. 216. Who sold that, and where was it?

A. Well it was right a half a mile south of the town of Volta. My brother bought it. Who he bought it from I don't remember.

X Q. 217. Do you mean between Volta and——

A. Between Volta and the canal.

X Q. 218. How many acres?

A. I would not be positive. I think it is 240; maybe only 160.

X Q. 219. Who did he buy it from?

A. I don't recollect the parties' names.

X Q. 220. Which brother is it? What is his name?

A. Frank.

X Q. 221. Do you know of any other land sold in there?

A. Yes I know some that was sold 3 or 4 years ago, in there.

X Q. 222. Do you know what it brought?

A. Yes sir.

X Q. 223. What?

A. $2.50.

X Q. 224. Who was it bought from?

A. My mother. Miller & Lux bought it.

X Q. 225. Bought it for $2.50 an acre? Where was it located?

A. It was straight north of Volta, 2 miles. It was all surrounded by Miller & Lux's land.

1041 X Q. 226. Was it irrigated?

A. It is under the canal. No, it was not irrigated, none of this land I am telling you about is irrigated.

X Q. 227. You say it is north of Volta. That is away north of Volta, away north of the railroad, too?

A. Yes.

X Q. 228. I am talking about between the railroad and the canal. Do you know of any land sold in there besides that which you refer to?

A. I don't recollect any just now, no.

X Q. 229. Do you know where Gustine is?

A. Yes sir.

X Q. 230. Do you know what they sell land there for?

A. Yes sir.

X Q. 231. What are they selling it for?

A. They are asking $200 an acre.

X Q. 232. They are getting it are they not?

A. Some places, yes. That land is in alfalfa, though.

X Q. 233. Now take the land between San Luis creek and Las Garzas creek, between the 2 canals.

A. Yes sir.

X Q. 234. Do you know of any sales in there?

A. Yes sir.

X Q. 235. Well, how many sales do you know of in there?

A. Well there is an estate in there that was sold off last—well it was closed up principally last March, the last of March, I think, and I think there was a section of country or some of it had been sold before that, so there was not much left. It was sold a couple of years before that. They sold it for $40, $50 and $60 an acre. Then they raised it last year. It was all sold off except I think a little piece of about 15 acres, I think it was at an average of $90 an acre. It was very good land, too. This was raw land, land that was not in alfalfa. Land that was down at Gustine, that was renting, was checked up and put in alfalfa and ditched and so on.

X Q. 236. Take on the other side of the canal below the main canal and the railroad, from San Luis creek down to Las Garzas creek, what is that worth an acre?

A. Below which?

1042 X Q. 237. Below the main canal. Between the main canal and the railroad ans San Luis Creek and Las Garzas Creek.

A. Well, different prices. Tilton bought a place in there and irrigated a good many acres. There was some alfalfa land and some that was not. He paid $13 an acre.

X Q. 238. I am not asking you now for some of it. I am asking you your opinion as to all that land, the average, what it is worth in there.

A. Excuse me. "How far?" was that question asked?

X Q. 239. Between the railroad and down.

A. But how far down?

X Q. 240. To San Luis Creek and Las Garzas Creek.

A. I guess the average would be worth $50 an acre.

X Q. 241. Now from Las Garzas Creek down to the Stanislaus County line—do you know where that is?

A. Yes, I know in places.

X Q. 242. And between that and the railroad, between the canal and the railroad, what is that land worth?

A. Well, the actual value of the land would be about $90 an acre—$80 or $90 an acre.

X Q. 243. Now take land along this canal from the Stanislaus County line down to the end of the canal, how much is that land worth?

A. Stanislaus County?

X Q. 244. Yes, below the canal.

A. Well, there is a strip in there from Stanislaus County down; there *is* three different grades of land, really. I think that land will average the same as the other; about $80 or $90 an acre.

X Q. 245. Now a good deal of it sells a great deal higher than that, doesn't it?

A. Some places, like 20 or 30 or 40-acre tracts that has got fine improvements on, a thousand dollar barn on it, and all fenced and ditched and everything, some of it sells as high—well, it didn't last year. I didn't hear of anything over $150, but they have run it up just now a little higher.

X Q. 246. Irrespective of the improvements, is there not
1043 considerable of that land that sells for over $100 an acre?

A. No.

X Q. 247. Haven't you ever known of any sale at over $100 an acre?

A. No, I don't think that any that was sold for $100 an acre was unimproved. I know that there is a piece right here on 31, just at the end of this canal here, that is as fine land as there is along the canal anywheres, and the ditch right close to it, and they sold it for $96 an acre.

X Q. 248. That is between the main canal and the——

A. Between the two canals.

X Q. 249. And the outside?

A. Yes sir.

X Q. 250. Have you had any experience, Mr. Pfitzer as to what ordinary grazing land will sell for an acre, where it is not either naturally irrigated, or artificially—has no irrigation at all?

A. I think so.

X Q. 251. About what is that?

A. According to the locality it is in.

X Q. 252. It varies considerably?

A. It varies a great deal.

X Q. 253. And taking land through Fresno County, say, and Merced County and outside of——

A. Along up the foothills?

X Q. 254. Yes, along up the foothills, that can't be irrigated. What does that sell for?

A. From $1.25 to $2 an acre.

X Q. 255. Now taking land that is either naturally overflowed from the rivers and sloughs, or artificially irrigated, do you know what that sells for—just grazing land, that kind of land?

A. What? Down along below the canal?

X Q. 256. Well, take any land now that is through those counties anywhere where you get land that can be irrigated and is irrigated by natural overflow or otherwise, about what does that land sell for, irrespective of this particular land? Have you had any experience in that kind of land at all?

A. Do you mean swamp land?

X Q. 257. Well, take the land that naturally overflows from the river, reclaimed swamp and overflowed land, do you know
1044 anything about that?

A. I have never had much experience in that kind of land. In that country it all belongs to Miller & Lux, but I have never used any of it.

X Q. 258. You don't know much about that, about the use of it, or what can be made out of it, do you?

A. I know it raises more or less rough feed. It raises quite a little bit along the river, those places that are overflowed from the canal. The swamp land raises very fine feed.

X Q. 259. I am not talking about any particular land take any land that you know of along the river on either side, any land that is capable of being irrigated there from the natural falling of the land, land that is subject to periodical overflow, do you know anything about the selling price of that land? Do you know of any of it being sold?

A. Well, I don't think I understand what kind of land you want.

Mr. LANGHORNE: I object to the question on the ground that it is not a proper cross-examination. He is carrying him across the river now. My questions were directed to lands along this canal. Take that land along the canal and along the banks of the river, land two or three or four miles away would not govern in the matter. Now this last question is generally about the overflowed land on each side of the river. I hardly think it is proper cross-examination.

The MASTER: Hardly so. Proceed if it is for the purpose of testing the knowledge of the witness.

(By Mr. TREADWELL:)

X Q. 260. Do you know, Mr. Pfitzer, anything about the selling price or the prices that land has actually sold at, which is overflowed in the way I have said, or is susceptible of irrigation for wild feed?

A. Well, to a certain extent, yes.

X Q. 261. Well, do you know what that kind of land generally will bring?—bottom land that is flooded?

A. I would give you *your* my idea if I knew whether you
1045 wanted my idea of bottom lands along the river, good lands along the river or poor lands along the river.

X Q. 262. Any land that comes within the overflow.

A. Well, there is different valued land. There is different kinds of land. There is land that raises wild grasses and different kinds of grasses in different places. I don't know which land you want.

X Q. 263. You would not be able to give one figure on the different lands?

A. No, not on the different lands. I bought 234 acres of pasture land there myself.

X Q. 264. You stated in regard to the fences along this canal, that they were put up by the owners of the land.

A. Yes, sir.

X Q. 265. You didn't put up those fences yourself, I suppose?

A. No sir.

X Q. 266. Where do you gather your information from as to who put those fences up? Is that just what you have got from hearing people talk?

A. I know it to be a fact. Every man fences his own land.

X Q. 267. I say, you don't know unless somebody tells you what has been done in that regard? You haven't gone up and down the canal to see the people who built those fences and asked them who built them?

A. I will answer that question this way, that I built a piece myself and I seen neighbors build them and fix them up, and there has been fences built that I never asked the parties who built them. I never asked the parties whether they built them or whether they didn't build them. But I seen them fences up and I seen them kept up and I seen people build them. In fact I know that they built those fences. I know the parties that have built them. I have met the parties. I know the parties built their fences there, because they are over the land.

X Q. 268. You don't pretend to be able to swear, do you,
1046 that all the fences all up and down that canal were built by the people, the owners along the canal, and not by the canal company? You don't pretend to swear that, do you?

A. I could say the canal company built a few fences for corrals around their section houses and horse yards, probably.

X Q. 269. Now if the books of this company showed that as early as 1873 they had fenced all of that right of way, and that these fences simply replaced them, you would not undertake to contradict that, would you?

A. I would.

X Q. 270. Were you there in 1873?

A. I was. I know that we fenced a good deal of it ourselves in that time.

X Q. 271. How much did you fence?

A. Well, I fenced on our half mile of the canal.

X Q. 272. Would you be willing to testify that the canal company never fenced any of that land?

A. Not that I know of—our land.

X Q. 273. I am not talking about your land.

A. When you say "all the land," it would include this land, wouldn't it?

X Q. 274. Yes, but are you willing to testify that the canal company never fenced any of this land?

A. No. They may have fenced some pieces in that time. I don't know. There was very little fencing in those days.

X Q. 275. You simply know that some of the people down there have put their own fences on the land and you have taken it for granted that they all did? Is that not about the size of it?

A. I know they all have.

X Q. 276. Do you hold any position in what is known as the Water Consumers' Association?

A. Yes sir.

X Q. 277. How long have you held that?

A. Since it was organized.

X Q. 278. When was that, Mr. Pfitzer? About when?

A. I would not be sure; the latter part of August.

X Q. 279. Of this year you mean?

A. Yes sir.

1047 X Q. 280. Did you have any connection with it before that?

A. No sir.

X Q. 281. Was there a like association before that, that you had any connection with?

A. That I was connected with it?

X Q. 282. Yes sir.

A. No sir.

X Q. 283. This is the first time that you have been connected with the Water Users' Association?

A. Yes sir.

X Q. 284. What is your position in that now?

A. I am a trustee.

X Q. 285. That association is conducting the defence in this suit is it not?

A. Well, we are supposed to help conduct it.

X Q. 286. And employ attorneys to do so?

A. Yes sir.

X Q. 287. And you are devoting all your time, are you, now, to that, or part of it?

A. No sir.

X Q. 288. Are you in the employ of the association?

A. No sir.

X Q. 289. You are just one of the trustees?

A. Yes sir.

X Q. 290. You have been attending the trial ever since it started?

A. Pretty much, yes sir, because I had nothing else to do.

X Q. 291. You are doing everything you can, I suppose, to assist the defence of course?

A. Yes sir.

1048 Examination-in-chief of EUGENE McCABE, called for defendants, sworn.

By Mr. LANGHORNE:

Q. 1. Where do you live, Mr. McCabe?

A. I am living in Berkeley.

Q. 2. How long have you been living in Berkeley?

A. My family have been living there since the first of August.

Q. 3. Where had you lived prior to the first of August?

A. Near Volta, Merced County.

Q. —. How long did you live at that place?

A. Since 1885.

Q. 5. You lived at Volta, Merced County, since 1885 and up to August, 1908?

A. Yes sir.

Q. 6. What official position do you have, if any, or what official position did you have in Merced County?

A. I was deputy assessor for a number of years.

Q. 7. During what years?

A. In 1890 and 1893 and up to 1898, inclusive.

Q. 8. Do you know the complainant's canal and works in Merced County?

A. Yes sir; that is up inclusive in Merced County. Beyond that I don't know.

Q. 9. Are you familiar with them and the lands over which they run in Fresno County?

A. No sir, I am not.

Q. 10. And in Stanislaus County?

A. I have a general idea in Stanislaus.

Q. 11. But you do know the canals and the lands through which they run in Merced County?

A. Yes sir.

Q. 12. Was it any part of your duties as deputy assessor for Merced County to acquaint yourself with the values of lands in that county, on the west side of the San Joaquin river?

A. Well, we had a general idea.

Q. 13. Did you acquaint yourself with the value of the lands in Merced County there through which this canal runs?

1049 A. Yes sir. We generally assessed the lands outside of the Miller & Lux property. That was land that we had nothing to do with. The statement was given in the office in Merced.

Q. 14. But you did know the value of those lands did you generally there through which the canal ran in Merced County?

A. Yes sir.

Q. 15. And since you went out of office you have lived there at this place up to the last of August?

A. Yes sir.

Q. 16. And did you know generally what the value of the lands was in Merced County and in the vicinity of this canal during May and June of the year 1907?

A. Yes sir.

Q. 17. Commencing at the Fresno line and going northwest along the canal in Merced county, what in your opinion would be the value of the land immediately along these canals, that is the main canal and the outside canal from that Fresno line say to a place called Camp 13?

A. Well, below the old canal, that is, immediately adjoining the canal I suppose $2 or $3 an acre.

Q. 18. That is immediately on each side, do you mean?

A. On the north side or—below the canal.

Q. 19. That would be on the north side?

A. Yes sir.

Q. 20. Now then, as to between the old canal and the outside canal in that distance?

A. Well, that is a better grade of land, some of it.

Q. 21. How much do you think it is worth an acre?

A. I suppose about $5.

Q. 22. What would those lands be worth in that section that I have mentioned if there was no canal there for irrigation purposes?

A. Oh, I suppose the government price of the land.

Q. 23. What would that be an acre?

A. I think about $1.25.

Q. 24. Now from Camp 13 to Volta in Merced County, what would be the land along the main canal—what would that be worth?

A. From Camp 13?

Q. 26. Yes sir; to a place called Volta, there on the map.

1050 A. Oh, I suppose they have sold for $35 or $40 an acre. I suppose they would be worth that.

Q. 27. Is that true of the land under the outside canal too?

A. No, they are better, I think, on the outside.

Q. 28. What would it be worth on the outside between Camp 13 and Volta?

A. Possibly $50 an acre.

Q. 29. If there was no canal there, what would those lands be worth?

A. Well, I suppose $3 or $4 an acre; $2 up, probably.

Q. 30. Now, from Volta to three miles below San Luis Creek on the main canal what would those lands be worth?

A. To San Luis Creek?

Q. 31. To three miles below San Luis Creek?

A. Possibly $5 an acre.

Q. 32. At the present time?

A. That is immediately adjoining?

Q. 33. Yes, the main canal.

A. From Volta down past San Luis Creek?

Q. 34. Yes, three miles below San Luis Creek?

A. I don't think they would average over $5 an acre.

Q. 35. How about the lands under the outside canal in that distance?

A. Well they would average, I suppose, in the neighborhood of about $50.

Q. 36. Now if there was no irrigation there in that section what would those lands in the distance I have mentioned be worth on the outside, on the main canal?

A. That is, from Volta to three miles below San Luis Creek? You mean the lands between the two canals?

Mr. TREADWELL: He don't understand the question.

(By Mr. LANGHORNE:)

Q. 37. If there was no irrigation, what would the lands be worth from Volta on both canals, the main canal and the outside canal, to three miles below San Luis Creek, on both sides of each canal, say, if there was no irrigation there?

A. About $5 or $6 an acre.

1051 Q. 38. Now then, from a point three miles below San Luis Creek to the Stanislaus County line, what are the lands worth there through which the canal runs?

A. On the outside canal?

Q. 39. No sir, the main canal.

A. Outside of irrigation?

Q. 40. No, with irrigation.

A. Oh, I suppose it would be about $80 or $90.

Q. 41. And without irrigation?

A. About $20.

Q. 42. On the outside canal from San Luis Creek to its present terminus what would the land be worth with irrigation?

A. About the same.

Q. 43. And without irrigation?

A. About the same price.

Q. 44. Do you know what the value of the lands is on the main canal from the Stanislaus line along to the present end.

A. No, I do not.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Mr. McCabe, as I understand it, you have not been deputy assessor since 1898?

A. No sir.

X Q. 2. And since that time what has been your business?

A. I have been ranching.

X Q. 3. You have not been in the real estate business?

A. No.

X Q. 4. And specifically what were your duties when you were deputy assessor? Were you in the office?

A. No, I was field deputy.

X Q. 5. And the field deputies get the statements for personal

property and improvement. Do they also get the descriptions of real estate, or is that done in the office?

A. We usually take both. If there was any difference arising as to the value of property, the field deputy would investigate the matter.

X Q. 6. But as a general proposition, were not the rolls, so far as the real estate was concerned, made up in the office?

A. The rolls were made up in the office, yes sir. The
1052 prices were fixed as the valuations were fixed. If there was any difference as to either a higher or lower valuation, why, the field deputies were supposed to investigate and report to the assessor, make a personal investigation.

X Q. 7. Otherwise the assessor himself would make the assessment of the realty? Is that true?

A. Yes sir. Of course that was in conjunction with the field deputy.

X Q. 8. In regard to the canal company, the number of miles of its right of way, the width of it, &c., that was carried on the books from year to year?

A. Yes sir.

X Q. 9. And simply assessed at so much a mile, was it not?

A. I should presume it was. That was something I had nothing to do with.

X Q. 10. And field deputies had nothing to do with that at all?

A. No, nothing at all.

X Q. 11. What district were you in? Were you assigned to any particular district?

A. No, outside of one year. In 1893, I think it was, I assessed from the Los Banos Creek north. Them years I was on the west side.

X Q. 12. That is, you had everything on the west side of the town?

A. Yes sir; on the west side of the river.

X Q. 13. The values that you have given here, were those the values that you arrived at while you were assessor there?

A. Part of them were. I don't think there has been any change on part of the territory there adjacent to the canal. Of course other parts there has been a very material change.

X Q. 14. Well, now which part that you have mentioned here, which you have defined as having changed since 1898, which is that?

A. Well, the outside canal of course was—there was very little territory taken in by that. Of course it has been entirely changed.

X Q. 15. That is, since the outside canal was built, it has changed that territory?

A. Yes sir.

1053 X Q. 16. Now, take the land under the main canal, has there been any change in that?

A. Well, there has been more of a change down in the Gustine country.

X Q. 17. That would be from Los Banos Creek north?

A. North, yes.

X Q. 18. Now, what has that been? An increase or a decrease?

A. It has been an increase, very materially.

X Q. 19. And with the others they have kept about stationary?

A. Yes sir; I should judge there has not been much change.

X Q. 20. Now take the land beginning at this Merced County line and below the main canal, say between that and the railroad and further up to Los Banos, do you know what land in there is worth?

A. Well it depends on the location. There is some good land immediately south of Los Banos, west of the railroad.

X Q. 21. Well, do you know of any sales in there of any of that land?

A. No, not of late; not immediately.

X Q. 22. Did you in this year?

A. Well, the last year that I was assessor there, it was in 1898, I think it was, and that land sold, south of Los Banos, between the two canals, for about $60.

X Q. 23. Well, and below the main canal, how did it sell?

A. Well, there was very little in that territory that was not Miller & Lux's. There was only just a few tracts.

X Q. 24. How did it compare with lands that did sell?

A. Well, I don't think it compared as well as the other lands.

X Q. 25. Some of less value?

A. Yes sir.

X Q. 26. But it was good land?

A. Yes, there was quite a tract of good land. They have opened up a lot of land west of the Santa Rita ranch and east of Los Banos and through in there which at that time you might say was wild land, was just simply grazing land. That was all they used it for, for that purpose. But they have graded up a lot of the land and checked up and they have some fine land.

1054 X Q. 27. Now how much do you think that land is worth?

A. Oh, I suppose $50 or $60 an acre. At Dos Palos, at the time the colony first started there, land was being sold at $60 an acre. Miller & Lux sold for $40, and Marks, the colonization agent, made $20. He sold it to the colonists at $60 an acre.

X Q. 28. And that has gradually increased?

A. Yes sir.

X Q. 29. Now, take the land below the canal, from the vicinity of Volta to San Luis Creek, how much do I understand you to say that that land is worth below the main canal?

A. Well, on an average I don't think it would be worth over $5 an acre.

X Q. 30. Why is there such a difference between that and the land between the main and the outside canal.

A. Simply from that distance the canal practically divides the alkali land from the outside land or higher land. I suppose it is just simply on the grade that the canal runs, which practically just divides the line.

X Q. 31. Take the land between the canal and the railroad in that distance, what does land in there sell for?

A. Between Volta and——

X Q. 32. Yes and San Luis Creek.

A. Well, there is some lands that is sold right south of Volta, that has sold for from $40 to $60 an acre. There is just a narrow strip or bit of land in there. There was some sold for $5 an acre; and the $5 land there was so much greater that the other is just a mere bagatelle, you might say, as to the amount involved.

X Q. 33. But there is then, as I understand it, a distance there of two or three miles through San Luis Creek to Volta where it is called the divide of the alkali?

A. Yes sir.

X Q. 34. And that is the reason that you put that low valuation on it?

A. Yes sir.

X Q. 35. You say you have been farming since you have been there. How large a place have you?

A. I was farming for the last few years about 800 acres.

1055 X Q. 36. Irrigated land?

A. No; besides that we have 100 acres in alfalfa and I am just checking up 190 more.

X Q. 37. Where is that located?

A. That is north of San Luis Creek.

X Q. 38. Below the canal?

A. Yes, below the outside canal; between the two canals.

X Q. 39. And you have not recently purchased that, or any land there?

A. I have purchased 100 acres just immediately before the new canal went through.

X Q. 40. Outside of that have you done much about—have you been down the canal to the Merced County line very frequently or not?

A. Yes, I have traveled along the line of the canal practically to Newman.

X Q. 41. And how about the other way, in coming down toward Dos Palos, down toward the Merced ranch?

A. Well, I don't travel that so frequently of late.

X Q. 42. Do you know how these valuations that you have put on here compared with the valuations of land in there for the purpose of assessment?

A. Well, they are here.

X Q. 43. These are here?

A. Yes sir.

X Q. 44. What proportion of the actual value did you generally put on in assessing the property?

A. Well, we aimed to assess it at about 70 per cent.

X Q. 45. Assessors are proverbially lenient, are they, in regard to valuations?

A. Well, I think so.

X Q. 46. You try to be as conservative as you can, do you?

A. We don't want to assess our county any higher than the other fellow assesses his.

X Q. 47. Of course every assessor knows that if he does assess his property at a higher average than another county that his county necessarily gets hurt by it on account of the state rate?

A. Most of them do. Some, however, do not.

X Q. 48. And you always aimed to be as conservative as
1056 you can, in justice to your oath of office?

A. Yes sir.

X Q. 49. Do you take water from the canal—or your land?

A. Yes sir.

X Q. 50. Have you known anything about the leasing of land, say land lying under the canal and between the county line of Merced and Los Banos?

A. No sir, I do not.

X Q. 51. You don't know exactly what it rents for?

A. No, I do not.

X Q. 52. Do you know how many cattle that land in there will support?

A. No, I do not.

X Q. 53. Are you a members of the irrigators' association?

A. Yes sir.

X Q. 54. And you are a contributor to that association?

A. Yes.

Further hearing adjourned until Saturday, December 19, 1908, at 10 a. m.

1057 SATURDAY, *December* 19, 1908—10 a. m.

Counsel appearing:

For complainant: E. F. Treadwell, Esq.,
For defendants: J. P. Langhorne, Esq.

Testimony of CHARLES E. SLOAN, called for defendants, sworn:

By Mr. LANGHORNE:

Q. 1. Mr. Sloan, where do you reside at the present time?

A. In Mill Valley.

Q. 2. What is your business or profession?

A. Civil and mining engineer.

Q. 3. How long have you been a civil and mining engineer?

A. About 14 or 15 years.

Q. 4. Have you been engaged in active practice during that time?

A. Yes sir.

Q. 5. In what state or place?

A. Well, principally in California and Nevada.

Q. 6. In the course of the exercise of your profession as civil engineer, have you had any experience in regard to the irrigation of lands by canals?

A. Yes sir.

Q. 7. Were you in June, 1907, familiar with the canal and works

known as the San Joaquin & Kings River Canal, on the west side of the San Joaquin river, in the counties of Fresno, Merced and Stanislaus?

A. Yes sir.

Q. 8. How long had you been acquainted with those works prior to June, 1904?

A. About three years and a little over, indirectly.

Q. 9. Did you ever make any examination of the canals and works of the complainant in this suit, that is, of the canals and works I have mentioned?

A. Yes sir, in June, 1907, I did.

Q. 10. How did you come to make that examination?

A. At the request of Mr. Maddux, district attorney of
1058 Stanislaus.

Q. 11. On whose behalf did you make that examination?

A. The board of supervisors of Stanislaus county.

Q. 12. In what month and what year was that examination made?

A. In June, 1907, I think. I have forgotten whether it was completed on the 25th of June or the 25th of July. I think it was the 25th of June though.

Q. 13. Do you know a gentleman, an engineer named Robert H. Goodwin?

A. Yes sir, I have met him.

Q. 14. I show you Exhibit 1 in this case, being a report by R. H. Goodwin, Engineer, dated December 24, 1906, and purporting to be an engineer's report of his examination of these same canals and works, and I ask you if you have seen that report before?

A. I had a report of Mr. Goodwin's. I believe this is it. There were four copies, or three copies. I guess this is it, yes sir. It was not bound together at that time.

Q. 15. Did you have that report of Mr. Goodwin's at the time that you made this examination in June, 1907, of these canals?

A. I did, yes sir.

Q. 16. Did you have it with you on the ground at the time you made that examination?

A. I did.

Q. 17. In making that examination, was anyone with you?

A. Mr. Burton Smith assisted me in that examination.

Q. 18. What profession is Mr. Burton Smith?

A. A civil and hydraulic engineer at Ceres, California.

Q. 19. To what extent did you make that examination in June, 1907?

A. We went over the entire system except the system that is called the upper canal, I believe—the new canal, which starts in above the present canal and continues for a few miles. We didn't go onto that at all.

Q. 20. Where do you mean by the new canal?

A. That is above the intake at Firebaugh. What is called the upper canal on the west side. It is the new canal that they
1059 started there a few years ago and never carried it down a great distance.

Q. 21. What is known as the outside canal?
A. Yes sir.
Q. 22. Mentioned in Mr. Goodwin's report as the outside canal?
A. Mentioned in Mr. Goodwin's report as the outside canal; commonly called the upper canal there.
Q. 23. State whether or not you examined the structures on the canal?
A. Yes sir, we did.
Q. 24. On the canal that you did examine?
A. On the main Miller & Lux canal.
Q. 25. On the main canal?
A. On the main canal.
Q. 26. And the bridges and gates and weirs and everything?
A. The gates and weirs and outlet boxes.
Q. 27. And all other structures?
A. Yes sir.
Q. 28. Did you make an examination as to the condition of those structures?
A. I did.
Q. 29. Whether there was any deterioration or otherwise?
A. Yes sir, we did.
Q. 30. In regard to the canals themselves, did you make an examination as to any deterioration of the cross-sections caused by the silting?
A. We did.
Q. 31. Did you make any examinations or estimates in regard to the cost of maintaining the canal only?
A. Yes sir.
Q. 32. Did you make any examination in regard to the cost of materials and labor in the matter of constructing and maintaining the canals?
A. Yes sir.
Q. 33. And in regard to superintending the canal?
A. Yes sir.
Q. 34. Did you make a written report of all those matters to the board of supervisors?
A. We did; yes sir.

Mr. LANGHORNE: I show the witness a document commencing and including page 78 of defendants' exhibit N, down to and including page 119, the end of said exhibit.

Q. 35. I ask you, Mr. Sloan, if that part of that exhibit that I show you is the report to the board of supervisors of Stanis-
1060 laus county which you have referred to?
A. Yes sir, it appears to be. Yes sir, this is the report.

Mr. LANGHORNE: If your honor please, we offer that in evidence in connection with the testimony of the witness. It has already been offered in evidence and marked.

Mr. TREADWELL: Defendant- objects to it on the following ground: First, that it is impossible to determine from the report what property the report refers to or what property it actually values; and sec-

ondly, on the ground that it attempts to set forth the estimate of the witness as to the cost of maintenance of the canal, which is not a subject of expert testimony, and if the subject of expert testimony, it does not appear that the witness has any sufficient knowledge as to the cost of maintenance, the salaries of the officers, the taxes, the office rent, printing and stationery and cleaning of the canal and horse feed, subsistence and repairs, and all the other matters of maintenance as to which he has attempted to give an estimate, and that the same is not testimony.

The MASTER: I overrule the objection.

(By Mr. LANGHORNE:)

Q. 36. Did you or did you not, Mr. Sloan, accept in making that report the estimate given in Mr. Goodwin's report as to the total amount of earthwork?

A. I did, yes sir.

Q. 37. The outside canal which you have spoken of does not run into Stanislaus County, does it?

A. No sir.

Q. 38. Mr. Sloan, on page 2 of your report, being page 109 of Exhibit N, said page is headed "earthwork" and contains fourteen lines of figures. I will ask you what those are?

A. That is the estimated amount of silt in the canal at the time that we made our examination.

Q. 39. I ask you whether or not that estimated amount of silting is the 300,000 yards of silting at 10 cents per yard,
1061 $30,000 mentioned on page 35 of your report?

A. I think it is. I would not be positive without adding that up.

Q. 40. When you made your examination in June, 1907, in what condition did you find the canal in regard to silting?

A. Some parts of it were badly silted and some parts of it were in pretty fair condition; noticeably where the two canals parallelled, a portion of it was badly silted.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. How old are you, Mr. Sloan?

A. Thirty-five.

X Q. 2. How long have you lived in San Joaquin Valley, if you ever lived there?

A. I think I went there in February, 1903.

X Q. 3. And remained there until what time?

A. Until 1906, in the fall—the spring, rather. In fact, I lived there until the fall of 1906.

X Q. 4. At what place?

A. At Modesto.

X Q. 5. What were you employed at during that time?

A. I was deputy county surveyor of Stanislaus County.

X Q. 6. During the whole period?

A. No, not during the whole period. I was deputy county surveyor about three years.

X Q. 7. Well, were you deputy county surveyor at the time you made the examination that you have testified to?

A. Well, as far as that is concerned, I guess I still am. I was appointed by the board of supervisors and have never resigned and have never been relieved; but it was after I was living in Modesto that I made this examination, so suppose I really was not.

X Q. 8. What employment were you in during that period?

A. I carried on a general surveying business in Modesto.

X Q. 9. What kind of surveying?

A. Land surveying and checking and such as that.

X Q. 10. As deputy surveyor of Stanislaus county, what 1062 were your duties, what work did you do?

A. The general duties that come to a county surveyor; anything in that line; the building of bridges, the building of roads, surveying out of roads.

X Q. 11. Prior to 1903, what had you been employed at?

A. In mining and in railroad work.

X Q. 12. Did you ever build any canals?

A. Yes sir.

X Q. 13. What canals have you ever built?

A. Probably I had better modify that and ask you what you mean by a canal?

X Q. 14. Well, what do you mean by a canal?

A. Well, by a canal I generally mean a ditch that is as large probably—in excess of 20 or 25 feet on the bottom, I might say. I can't say that I ever built a ditch that was larger than that.

X Q. 15. What was the largest ditch you ever built?

A. About 24 feet on the bottom.

X Q. 16. And how long?

A. Probably a mile and a half; a mile.

X Q. 17. Just a private irrigating ditch?

A. Yes sir.

X Q. 18. When you were employed in mining, in what capacity were you employed?

A. I have done most everything in the mining line; assayer, underground engineer, superintendent.

X Q. 19. What railroad were you employed by?

A. The Cerro de Pasco railroad in Peru.

X Q. 20. And in what capacity?

A. I went down there as transitman. I did not serve in that capacity. After I was there probably a month I was put in charge of the transportation department. I was taken out of the engineering department and put in charge of the transportation department.

X Q. 21. Now when did you commence your work on this canal, these canals? What date?

A. I think it was about the last week in May.

X Q. 22. Have you got your notebook?

A. No sir, I have not.

X Q. 23. Are you not accustomed to take field notes and to keep your books?

A. Yes sir.

1063 X Q. 24. Did you keep a field book of your work in this canal?

A. I did, yes sir.

X Q. 25. Where is it?

A. I rather think it is in Austin, Nevada. I would not be positive.

X Q. 26. Were you not told that your notes might be called for at this hearing?

A. No sir. In fact, I didn't know anything about this hearing until last Tuesday.

X Q. 27. Were you asked in regard to what papers you had in regard to your survey?

A. No sir.

X Q. 28. Do you know where this book is?

A. I would not be positive that I had it at all. It may be destroyed.

X Q. 29. What makes you think it might be destroyed?

A. Well at the time I made that examination, I was running the Kingston Mine at Kingston, Nevada, and most of my notes were in the assay office over there, and such as I didn't want and didn't think I would have any use for again I didn't bring back with me.

X Q. 30. You knew that you made this particular examination owing to a controversy which existed between the counties there and the canal company, did you not?

A. Yes sir.

X Q. 31. And you made it for the purpose of testifying to it before the board of supervisors?

A. Yes sir.

X Q. 32. And you did testify before the board with regard to it?

A. Yes sir.

X Q. 33. And still you don't know with regard actually to your notes of that survey?

A. I could not say offhanded, no sir.

X Q. 34. Are you sure that you kept any field notes at all?

A. Certainly I kept some field notes or I could not have gotten up that report.

X Q. 35. I am not asking you whether you could or not. I am asking you whether you are sure that you did keep field notes.

A. I am sure I did.

1064 X Q. 36. Now you think it was the last week in May that you went out on the canal?

A. I think it was. It has been two years ago and I could not say positively.

X Q. 37. You don't know the date?

A. I could not say positvely; no sir.

X Q. 38. Where did you start in?

A. I started in at the lower end of the canal, near Crow's Landing.

X Q. 39. Where did you go then?

A. Worked right up the canal from there clear to Firebaugh.

X Q. 40. And how long were you out there?

A. Well, off and on, about a month.

X Q. 41. Well, now let us see. You started in sometime in the last week of May?

A. Yes sir. According to this report which was signed the 24th of June.

X Q. 42. You signed your report the 24th of June?

A. Yes sir, and I got through with it the night before.

X Q. 43. You got through with it the night before?

A. Yes sir.

X Q. 44. Now your report was typewritten, was it?

A. Yes sir.

X Q. 45. How long had you been getting your report up?

A. I started in Sunday morning about nine o'clock. I got through about 12 o'clock Sunday, dictating it to a stenographer.

X Q. 46. You were one day then?

A. I was one day dictating it, yes sir.

X Q. 47. Then how long did it take to write it?

A. Do you mean the calculations and everything?

X Q. 48. No, I mean the typewriting.

A. I just said I started at 9 o'clock in the morning and got through at 12 o'clock at night.

X Q. 49. You got it written at that time?

A. Yes sir.

X Q. 50. All dictated and written?

A. Yes sir.

X Q. 51. And how long had you been working in your office in getting your report up before you started dictating?

A. I should say about seven or eight days; not continu-
1065 ously but the totally; during my calculation and everything.

X Q. 53. So for about 9 days, probably, before that report was signed you were doing office work, getting the report in shape? Would that be right?

A. You mean by that, the 9 days immediately preceding the writing?

X Q. 54. Yes.

A. No, that is not what I mean. Because I think I was on the canal probably 5 days before the report was written. But in all I was probably 8 or 9 days writing it up.

X Q. 55. Then your best recollection would be that you were last on the canal before filing that report up to June 19?

A. Well, I could not say as to that. I would not attempt to remember those days.

X Q. 56. You signed on the 24th?

A. I signed on the 24th.

X Q. 57. You dictated it the day before that?

A. Yes, I was dictating it on Sunday, if that was the day before the 24th.

X Q. 58. And your best recollection is that it was 4 or 5 days before that that you were last on the canal?

A. I think so.

X Q. 59. Now you say you were on the canal off and on during that period. How many days altogether were you actually in the field doing that work?

A. I could not say exactly.

X Q. 60. Well, what is your best recollection?

A. I really don't know. It has been two years, and I have not even thought of it since that time. As near as I could say, it would probably be a week or 10 days; something of that kind.

X Q. 61. You testified in this matter as late as June 25, 1907?

A. Yes sir.

X Q. 62. And your best recollection is that it was a week or 10 days that you were in the field?

A. Something like that. Whatever it took us to go over it.

X Q. 63. Well now, you went right down the main canal, did you, from the head, or up the main canal, from the head?

A. I went up the main canal from the lower end of it.

X Q. 64. From the lower end, I should say.

A. Yes.

1066 X Q. 65. How long did it take you to go from there to Firebaugh?

A. Well, I staid at Newman one night and staid in Los Banos a night. I staid in Newman another night; that is three. I staid in Firebaugh a night, I staid in Fresno a night. We were about 5 or 6 days, I think, going up the canal taking measurements.

X Q. 66. What were you doing in Fresno?

A. Well, principally trying to keep cool. It was in the summer time. We got in late in the evening and we got out early the next morning. We went in on one train and out on the next one.

X Q. 67. Fresno is quite a ways from the canal?

A. Yes, it is the first place you can get on the line after you leave Firebaugh. I went to Fresno with the idea to get to Merced.

X Q. 68. That is, going home?

A. No sir; to Merced, to look at the tax list; to see the company about the personal property.

X Q. 69. I mean, you were going away from the canal?

A. Yes sir.

X Q. 70. From where? Firebaugh?

A. Firebaugh; yes.

X Q. 71. Did you go up the canal from Firebaugh?

A. Yes; to the intake, you mean?

X Q. 72. Yes.

A. Yes.

X Q. 73. How many days were you on that?

A. I was up there one afternoon and I was up there again the next day.

X Q. 74. When you got to Firebaugh you came right down the canal as I understand it, or up the canal? You stopped at Newman, you stopped at Los Banos, and did you stay over night at Firebaugh?

A. Yes, I think we did.

X Q. 75. When did you go on the Los Palos system?

A. Well, we went there from Los Banos and I think we went there from Newman one trip.

X Q. 76. That is, you travelled clear over from Los Banos across the country over to Dos Palos?

A. As I remember it, Dos Palos is——

1067 X Q. 77. That is on the railroad. Did you go by the railroad?

A. No, we had an automobile.

X Q. 78. You didn't go down the canal?

A. We went down along the banks of the canal from one end to the other.

X Q. 79. I mean at the time you went from Los Banos down to Dos Palos where did you go? How did you go?

A. Well, we went one time on the canal bank, and then another time or two on the county road. I would not pretend to remember my exact trips in there. I have been around the country too much since then. It is too long ago.

X Q. 80. How long were you in Dos Palos?

A. I say I went there one day, that I remember of, and I ate dinner there that day.

X Q. 81. Is that the principal thing that makes you remember it, because you ate dinner there?

A. Yes, I had no interest in Dos Palos whatever. I got in there and got out.

X Q. 82. You just wanted to see that place and you went in there?

A. I would not be absolutely positive that I was there. No, I ate dinner at Dos Palos, and I went right out.

X Q. 83. How long were you there?

A. About an hour, I think.

X Q. 84. Where did you go then?

A. I would not be able to say. I don't know where I did go then.

X Q. 85. Did you go up the canal or down the canal?

A. I would not endeavor to say. I don't know where I went.

X Q. 86. Did you go from Dos Palos up to the intake of the Dos Palos canal from the main canal?

A. I don't know that. I would not endeavor to say where I went after that. I was all around there. Whenever I got through with one I would go to another.

X Q 87. Would you say that you went all up and down the canal there in the Dos Palos system?

A. Yes.

X Q. 88. That you did?

A. Yes sir; that we did.

X Q. 89. Are you sure that you did?

A. Well, I went over all that were in existence then. I 1068 don't know whether there is any there that has been built since then or not.

X Q. 90. There are a great many distributing ditches in there are there not?

A. Yes sir; four I think.

X Q. 91. What did you know about what canals the company owned and what it did not?

A. Mr. Smith was the superintendent of construction for a long while, and I took his word for a good many things, as to what belonged to the company and what did not.

X Q. 92. Do you know whether those canals were built there while Mr. Smith was superintendent or not?

A. No sir; I don't know that.

X Q. 93. Now how did you go from Firebaugh to the head of the canal?

A. Well, I went out one time in a single buggy, and I went out another time part of the way in an automobile. That is, I went out in an automobile or walked.

X Q. 94. You went out in an automobile or walked?

A. Yes.

X Q. 95. And the time you took the buggy you rode? Is that the idea?

A. Yes sir.

X Q. 96. You rode all the way?

A. No, we could not. There was two other breaks in the canal that we could not get past.

X Q. 97. What did you do then?

A. We walked.

X Q. 98. You left your buggy?

A. Yes sir.

X Q. 99. Now did you have any camp at the headgate or anything of that kind?

A. What?

X Q. 100. Did you have any camp at the headgate?

A. Well, there was one afterwards. I was there from half past two probably until dark, then I was there the next day until along about noon; something like that.

X Q. 101. Where did you stay that night?

A. I staid at Firebaugh that night I think.

X Q. 102. That is, you went back from the headworks, you went back to Firebaugh?

A. Yes, it is only a matter of five or six miles.

1069 X Q. 103. And how was the water at that time in the river?

A. The water in the river?

X Q. 104. Yes, at the time you were at the headworks.

A. Well, the river was fairly full of water.

X Q. 105. What do you mean by "fairly full of water"?

A. Well, it was running pretty full up on the diverting weir, that is, in the San Joaquin river; probably as high as it usually is in June, the middle of June.

X Q. 106. How was the water along the canal from Firebaugh to the head? How was the country in through there?

A. I believe the canal was about as full as it could be maintained.

X Q. 107. Full of water, wasn't it?

A. Yes sir; in fact it was so full that it broke over the banks in a place or two.

X Q. 108. In June 1907 there was a very high river, wasn't there, that year?

A. I don't know that the river was exceptionally high that year, Mr. Treadwell. I would not say.

X Q. 109. Really you don't know whether the river was high or not in 1907?

A. No; that is, what you would compare with, is before, at the same time; the year before, at the same time?

X Q. 110. Yes.

A. Yes.

—. ——.

A. No sir; I do not.

X Q. 111. You don't know whether there had been more of an overflow that year than usual?

A. No sir.

X Q. 112. But you did see that the canals were very full of water, did you?

A. Yes sir.

X Q. 113. There was a great deal of irrigation being done, wasn't there?

A. Yes sir.

X Q. 114. And the canal from the head down to the Dos Palos system—the canal was carrying about all that it would hold, was it not?

A. Yes, as I remember it, it was about as full as it could be.

X Q. —. And the country between there, in those points more or less had overflowed considerably, and there were even places where you could not pass?

A. Between Firebaugh and the head; yes sir.

1070 X Q. 116. That country is more or less subject to overflow, isn't it?

A Yes sir.

X Q. 117. Now at the weir itself, the water was well up to what you would call the top of the weir, wasn't it?

A. Well, as near as I can recollect it was within probably 4 or 5 feet of the plank across the water.

X Q. 118. And was the water going over the weir and down the fish ladder?

A. Yes sir.

X Q. 119. Considerable water was going over the weir?

A. Yes.

X Q. 120. There was a large river even below that, wasn't there?

A. Yes sir; I remember marking it there, but I don't remember how much water there was in it. I could not say now.

X Q. 121. Now when you were employed by Mr. Maddux for the county did he also give you the report that Mr. Goodwin made in 1896?

A. I don't think he did; no sir. I had that report, though. He had not given it to me. I got it from the county clerk, I believe.

X Q. 122. That is what I mean. You got it?
A. I got it; yes sir.
X Q. 123. You mean you had two reports then?
A. Yes sir.
X Q. 124. You had two reports?
A. I had six reports.
X Q. 125. Well I mean you had reports made by Mr. Goodwin at two different times?
A. Yes.
X Q. 126. Now within the last year, before you made this examnation, that is to say, from June 1906 until June 1907 did you have any peesonal familiarity with prices of labor and material?
A. June 1906 to June 1907?
X Q. 127. Yes.
A. Well, I was familiar with them in a way; in the way that a man has to keep posted on those things.
X Q. 128. What do you mean by that? I mean, Were you personally familiar from any purchases which you made?
A. Do you mean if I hired men and paid them from my own money for work at that time?
1071 X Q. 129. Yes.
A. No sir, I can't say that I did.
X Q. 130. You had nothing to do with the hiring of laborers during that time?
A. I don't think so.
X Q. 131. And you had nothing to do, personally, with the purchase of material?
A. The purchase of material?
X Q. 132. Yes.
A. I did not in Modesto, but I have in other places.
X Q. 133. During the year before that you had not had anything to do with the purchase of such material as would be used in the construction of that canal?
A. June 1906 to June 1907? Well, I bought considerable lumber in that time. That is about all.
X Q. 134. What lumber did you buy in the year prior to June 1907?
A. Well, I bought a great deal of it in a mining way, but not for that particular country.
X Q. 135. Where?
A. In Nevada.
X Q. 136. But you had not been buying materials down in the valley there?
A. No sir.
X Q. 137. All you really knew about that was what you heard from enquiry from other people, wasn't it?
A. Well, yes, as a matter of fact I guess that was about all. Those enquiries were made with the point of ascertaining the price of materials.
X Q. 138. Now in regard to the amount of earthwork in this canal, as I understand it you assumed that Mr. Goodwin's estimate

of the amount of earthwork in the canal was correct as shown by his report?

A. Yes sir.

X Q. 139. Is that correct?

A. I think that is correct; yes sir.

X Q. 140. You made no measurements, then, for the purpose of measuring the length and depth and the amount of the excavation in those canals?

A. Oh yes, I did. I measured everything, except I didn't go over the canal and measure the length of it. I measured the cross-sections. I measured the width of the canal most every
1072 half mile, some places less than that. I also measured the banks. I didn't measure the length of the canal.

X Q. 141. You don't know whether it is 120 miles long or whether it is a thousand?

A. Except that I know that it isn't a thousand, because I know how long it takes to get over.

X Q. 142. But you did in making up your report accept Mr. Goodwin's estimates as to the amount of excavation of those canals?

A. Yes sir.

X Q. 143. Now you say, as I understand you, that this page 28 is for the purpose of showing the amount of silt in the canal. Are you correct about that?

A. I said that, but I would not state positively that that is it.

X Q. 144. Nobody else can tell, and you can't tell, either?

A. No, nobody else can tell either.

X Q. 145. Now can't you tell? Your counsel can't, apparently, and I can't. It does not show that, does it, Mr. Sloan, at all?

A. No, I don't think that it does. I will tell you what I think it is. I think it is the earthwork in the laterals of the Dos Palos system. I think that is what it is, but I am not positive. In my own report, the one that I first filed, that sheet was left out entirely, and I don't know where that sheet got in, to tell you the truth. But when I said it was the silt I thought it was the silt because I seen that it called for 300,000 cubic yards.

X Q. 146. Well, do you see anything in that page which says anything about 300,000 cubic yards?

A. Not anything on that page.

X Q. 147. Nothing on that page?

A. No, but there is a page there that states that there is 300,000 cubic yards of silt, and I said without any thought that that was what I thought it was.

X Q. 148. Now taking up this report that you testified to, that report, as I understand it, did not include any part of the
1073 outside canal?

A. No sir.

X Q. 149. Without looking at the map, how far does the outside canal run? You say it didn't run very far. What do you mean by that?

A. I don't know anything about it. I never was on the outside canal.

X Q. 150. So you didn't go there, and you don't know anything about that?

A. No, except in a vague sort of a manner. I don't think it goes into Stanislaus county.

X Q. 151. And whether it carries the water that goes into Stanislaus county you don't know of your own knowledge?

A. No sir; not of my own knowledge.

X Q. 152. You didn't go over it and calculate it in your report?

A. No sir; I did not.

X Q. 153. Now between the outside canal and the main canal there are certain outlet canals, known as Outlet Canal No. 1, Outlet Canal No. 2, Outlet Canal No. 3, Outlet Canal No. 4, and Outlet Canal No. 5?

A. Yes.

X Q. 154. Connecting the two canals. Did you include those?

A. No sir, I did not.

X Q. 155. Did you make any calculation in regard to the Drain Canal that follows along near the upper bank of the main canal?

A. Which bank do you mean? The upper bank? What do you mean by the upper bank?

X Q. 156. What do you mean by the upper bank of the canal?

A. I mean on the up hill side.

X Q. 157. That is what you mean? Do you know which bank of the canal that is?

A. Yes sir.

X Q. 158. I say, is the drain canal that runs along there, included in your report?

A. Do you mean as to the earthwork in it?

X Q. 159. Yes sir.

A. Well, if it was in Mr. Goodwin's report it is in mine.

X Q. 160. The outside canal is in Mr. Goodwin's report, is it not?

A. Yes.

1074 X Q. 161. But the fact that it is in Mr. Goodwin's report will not prove that it is in yours, will it?

A. No.

X Q. 162. I ask you if you remember that canal. Do you remember that canal? Do you remember seeing any water in it?

A. I was just trying to get it in my mind before answering the question. I remember a number of gates and bridges in that canal. But I think it was on the lower bank. No, I guess it was on the upper side all right. I would not be positive about that. We included it, which ever side it was on. I was thinking it was on the down side, but I guess it would not be.

X Q. 163. What investigation did you make in order to determine the amount of personal property, scrapers, horses, wagons, furniture, fixtures, skiffs, scows and everything of that kind there was in connection with the company or used by the company?

A. At the upper works we made an inventory of what there was up there, and at all the various places along the canal and at the different station houses we sent over the materials, the tools and such

things as that without the furniture in the houses. That we did not include. We didn't go into the houses.

X Q. 164. Did you go in and enquire as to what property the company had there, what number of horses they had there?

A. I think we did.

X Q. 165. You think you did? What recollection have you of it?

A. My recollection is that I did.

X Q. 165. You think you did. How did you find out about what number they had? A. Our station men at the various houses—I guess from the station men at the various houses.

X Q. 167. Have you any recollection about that, as to how you located them?

A. How we came to that conclusion?

X Q. 168. Yes.

A. It was not a great while before that that Mr. Smith was superintendent of the canal.

X Q. 169. And you took what Mr. Smith told you?

1075 A. As far as the tools of the company were concerned, and such as that, yes, sir.

X Q. 170. Now in regard to the telephone line, did you measure that?

A. No sir.

X Q. 171. Did you estimate how many poles there were per mile?

A. No, I don't think I did.

X Q. 172. Did you estimate how many miles of wire there were?

A. I think that we simply decided that the canal was so long and that the telephone system was the same length. Telephone systems are generally put in on poles about the same distance apart.

X Q. 173. Did you know what the salary of the superintendent of this canal was?

A. I don't know that I did; no sir.

X Q. 174. Did you know what the salary of the secretary was?

A. In fact, I don't know what the salary of anybody connected with the San Francisco end of it was.

X Q. 175. Did you know what the salary of the bookkeeper was?

A. In San Francisco? No sir.

X Q. 176. Did you know what office force there was?

A. In San Francisco?

X Q. 177. Yes.

A. No sir.

X Q. 178. Did you know what the office rent was?

A. In San Francisco?

X Q. 179. Yes.

A. Well, I remember clearly that the report of Mr. Goodwin states the office rent in San Francisco, and we took it from that.

X Q. 180. If it is not in that you didn't know anything about it?

A. No sir.

X Q. 181. If you did know it, you didn't know it of our own knowledge, but simply because the report stated it?

A. That is it.

X Q. 182. And the amount of money for printing and stationery actually expended by the canal company, did you know
1076 anything about that?

A. No sir.

X Q. 183. You never ran a canal, have you, yourself, of this magnitude?

A. No sir; I never have.

X Q. *183.* And any estimate that you may make as to the amount of printing that would be necessary would be simply the wildest kind of a guess, would it not, Mr. Sloan?

A. Well, you might call it so, but I don't think so.

X Q. 184. You don't know whether it would be necessary for the company to print this book, or not, of its transactions?

A. I don't know what that book is. In fact, I don't know anything about it.

X Q. 185. In reference to that book, I will say that it is a 2-volume book of the testimony in the case of Stanislaus County against the San Joaquin & Kings River Canal & Irrigation Co. Now you didn't take anything into consideration in that case, did you, as to the printing of it?

A. No sir.

X Q. 186. You had no more idea of what the printing of that would be than you have of what the printing is for the Government of the United States?

A. I haven't any more idea of the value of the printing than I have of the lawyers' fees in the case. I don't know anything about it.

X Q. 187. Now when you attempted to estimate the amount that it would take to subsist the horses and the employés there, did you figure upon the number of men that were employed?

A. I think that we did.

X Q. 188. Well now you think you did, Mr. Sloan, but did you?

A. Now just let me explain that summary in regard to the expense of maintaining the expense of the canal.

X Q. 189. I don't want you to explain. I want you to answer my questions. Now did you in the first place find the number of men that were employed there, actually employed there?

A. I figured out the number of men that would be necessary to maintain that canal.

1077 X Q. 190. Did you ever run a canal?

A. I never had charge; no sir.

X Q. 191. You never did, you say. What experience had you had that would enable you to determine the number of men that would be required to run that canal?

A. Well, I think I could run the canal, and being able to run the canal I would know how many men it would take to do it—to do the work.

X Q. 192. That is about all there is to it, isn't it?

A. In a way, yes.

X Q. 193. Do you think you know anything more about that than his Honor does?

A. I don't know.

X Q. 194. You don't know even how long the canal was?

A. Not to be certain; no sir.

X Q. 195. You don't know how many section men there were on it? And you don't know how many houses there are on it?

A. I did know.

X Q. 196. How many men employed?

A. The men are housed at those section houses.

X Q. 197. You knew how many section houses there were?

A. Yes sir.

X Q. 198. You could see that, of course.

A. Yes sir.

X Q. 199. Did you know how many zanjaros there were? Do you know what a zanjaro is?

A. No sir.

X Q. 200. In regard to the subsistence, did you know anything about the cost of such food and things of that kind that would be necessary to run those section houses and support those men and their families? Have you had any experience along those lines of maintaining a large camp of men?

A. Yes sir.

X Q. 201. What experience have you had in regard to that?

A. Well, I have had about 150 men for a year of a year and a half in South America, and I have had a great many men around various mining camps that I have run.

1078 X Q. 202. You had not fed any men in the San Joaquin Valley, had you?

A. A few.

X Q. 203. A very few, wasn't it?

A. It didn't run into a very large number; no sir.

X Q. 204. Did you know how many people there were in a family, that were kept by those section men, that were maintained by the company?

A. No sir.

X Q. 205. Now in regard to the amount required for canal cleaning, did you make any estimate as to the amount of silt that would be deposited there in a year?

A. No I did not. That would be a long-winded job.

X Q. 206. Had you had any experience on canals to such an extent that you could even give hearsay information as to the amount of silt that would inevitably deposit itself in those canals annually?

A. No sir, I never did. I never had any experience.

X Q. 207. And you really don't know, then, how much silt would ordinarily be washed in and deposited in those canals in one year?

A. Well, it is not a thing that runs right along regularly. It is nothing that you can figure on.

X Q. 208. It would depend a great deal on the amount of water carried, would it not?

A. It would not depend so much on the water carried as it would on the season you had. If you had a great deal of high water you would have a great deal of silt.

X Q. 209. In fact there would be a multitude of questions, in regard to the velocity of the water and everything of that kind, that would enter into that proposition, would there not?

A. Yes sir.

X Q. 210. Now following on your report, you make a certain allowance "Engineer, Superintendence and Incidentals", $25,000. Have you any idea as to how long it would take to build those canals, Mr. Sloan?

A. Working one man or a thousand?

1079 X Q. 211. Well of course it would depend a good deal on that, would it not?

A. It would depend a little on it.

X Q. 212. And if you had one management, one general management, of course it is only practicable to work a certain amount of men on an undertaking of that kind, isn't it?

A. There is nothing to prevent, that I can see, of working as many men as you could get to build it.

X Q. 213. Well, there is a limit on the amount of men you can get on an undertaking of that kind?

A. Yes sir.

X Q. 214. If you press the market you are going to raise the prices of everything?

A. Yes sir.

X Q. 215. So you have got to take things in the way you find them?

A. Yes sir.

X Q. 216. As I understand it, you never built anything in the way of a canal, yourself, or had charge of it, larger than a small ditch?

A. No sir; I never built any large irrigation system or anything of that kind.

X Q. 217. Were you ever in the irrigating business yourself, where you bid on work of that kind?

A. No, I never have been. I have figured for various people, but I have never bid on it myself.

X Q. 218. In building things of that kind you have not had enough experience to say as to how much would have to be allowed for the margin of incidentals and superintendency and things of that kind? You can't figure it down to dollars and cents, outside of labor and materials, on a job of that proportion, can you?

A. Well, I think I have.

X Q. 219. You never have, as a matter of fact, tested your belief—I mean by actual experience, have you?

A. Not in building canals; no sir.

X Q. 220. Or in building anything else in large quantity, have you?

A. Well, I have built quite a few things where I had to have several men to build it; and on quite a little work I have figured on larger things, but nothing as much as that in the way of

1080 an irrigation plant.

X Q. 221. Now in your engineering did you figure out

definitely by getting down carefully as to the amount of engineering that would be required in the building of these canals?

A. The item of engineering and superintendence and expense there is based on the fact that that is generally figured on about ten per cent of the cost.

X Q. 222. You think that ten per cent of the cost would be a fair amount?

A. Yes sir; it should be ample.

X Q. 223. And that is the general idea that you have gathered from the experience that you have had, and what you have heard from other people?

A. Yes sir.

X Q. 224. Did you include in your estimate any amount for the interest on the money that would be invested in this canal pending its construction?

A. I can't say that I did. I don't think I did, unless it shows in the report.

X Q. 225. Taking up your report beginning on page 82, you begin with certain stop gates. Can you locate any one of those stop gates, Mr. Sloan?

A. Can I locate any one of them?

X Q. 226. Yes; tell where it is.

A. No sir.

X Q. 227. Can any one in reading that report tell where any one of those stop gates is?

A. No sir.

X Q. 228. You took the size of those stop gates also from Mr. Goodwin's report, did you?

A. No sir; I took those from actual measurement.

X Q. 229. You took those from actual measurement?

A. Yes sir.

X Q. 230. And yet you could not tell me where one of those stop gates is, so that I could go and find it and verify your estimate of the amount, could you?

A. I could tell you where one of them is. I don't know as I could tell you any more. I think the first one is at the lower end of the canal, and I think it is 24 by 30 feet. It just so happened that I remember that.

1081 X Q. 231. What do you mean by "It just so happened"?

A. You asked me if I could remember any one of them.

X Q. 232. Why did you happen to identify that?

A. Because it happens to come at the top of the list, and I worked from that.

X Q. 233. Outside of that you don't know anything about where they are located?

A. No sir; I don't know exactly.

X Q. 234. Taking the next item, the bridges. Is there anything in this report that locates any of those bridges?

A. As to their location on the ground?

X Q. 235. Yes sir.

A. No sir.

X Q. 236. And did you put in all those bridges as over the canal?
A. They were all included; yes sir.
X Q. 237. Are you sure of that?
A. Well, I know now there are some county bridges there. I don't remember just how many we left out.
X Q. 238. You found some bridges there that you determined were county bridges?
A. Yes sir.
X Q. 239. And left them out?
A. Yes sir.
X Q. 240. Do you know which ones those were?
A. No, I could not identify them from this report.
X Q. 241. Were you there when they were constructed?
A. No sir.
X Q. 242. Do you know who constructed them, of your own knowledge?
A. Only what I have been told by the board of supervisors.
X Q. 243. And because they told you something you came to the conclusion that they belonged to the county?
A. I came to the conclusion that they didn't belong to the canal company, you mean?
X Q. 244. Yes.
A. No. Well, yes, yes.
X Q. 245. You omitted them?
A. I omitted them, yes.
X Q. 246. Now the regulating gates and the inlet gates which follow; it is also true in regard to those, is it not, that there is nothing here in the way of a station or anything that locates
1082 any of those gates?
A. No sir.
X Q. 247. And the same is true of the discharge gates?
A. Yes sir.
X Q. 248. And the waste gates?
A. Yes sir.
X Q. 249. And the meter gates?
A. Yes sir.
X Q. 250. And the siphons? I think the headgates could be located in there.
A. I think the siphons could, too.
X Q. 251. What is the number of the siphons?
A. There are only 5 of them. They are all of the same size, except one.
X Q. 252. In that way they could be located?
A. It is easy enough to locate the bridges and intakes and outlets, by their various sizes and dimensions.
X Q. 253. Well there is a great many of the same size?
A. Yes sir; there is a great many of the same size. You could not distinguish which was which of those that were of the same size?
X Q. 254. Now will you tell me, Mr. Sloan, how you worked out this question of depreciation in these structures?

A. By the condition of the lumber that was in them, and about how it compared with new lumber.

X Q. 255. Well, what length of life do you give to structures of that kind?

A. That depends upon the material. It depends upon what material you would use to build it of. Redwood will last a great deal longer than pine, provided it is wet.

X Q. —. How long a life would you give to redwood?

A. For what? Bridges, flumes or outlet boxes?

X Q. 257. Well, different places.

A. It will last a great deal longer in a flume that is underground than it will in a bridge. In a bridge it would not last near as long. It depends on the travel a great deal.

X Q. 258. Are you able to give any length that it would last generally?

A. On what? A bridge or a culvert?

X Q. 259. Take it on a bridge.

A. Well, from experience that I had in Stanislaus County, 1083 most of the bridges had to be refloored in about 3 years—2½ or 3 years. The balance of the structure will last for some 20 years, and still it is in good condition, in fairly good condition.

X Q. 260. What do you mean here where you use the term "Condition, 40 per cent"? Do you mean that 40 per cent of its original cost remains?

A. Forty per cent of its original value.

X Q. 261. And where you say "90 per cent of the original value," you mean then that there was a depreciation of 10 per cent?

A. A depreciation of 10 per cent; yes.

X Q. 262. Now, Mr. Sloan, I have struggled with this report. I have read it over a great many times; and so far I am not able to tell how it is constructed, at all, or what it means. It may be my stupidity. But I wish you would explain to me how it is constructed and what it means, if you will. Just go through it slowly, and just tell us what you were trying to do, what you were trying to get at, and how you did it.

Mr. LANGHORNE: I think, your Honor, that the question is improper, for the reason that the counsel does not state what part of the report he does not understand. The witness is entitled to have his attention called to some particular part.

The MASTER: Counsel has directed the attention of the witness to some parts of the report and to some headings, captions which appear in the report. But I think his question should be more specific and should call his attention to certain captions, as, for instance, "Lumber Bill" on page 6 of the printed report.

(By Mr. TREADWELL:)

X Q. 263. Now did that lumber bill, for instance, include all the lumber in the canal, or what?

A. The total of it includes all the lumber in the canal, yes.

X Q. 264. Well, is there anything in here—that is what I am

trying to get at—that shows the value of any of these particular structures or any of these stop gates?

A. Any one of the stop gates?

X Q. 265. Yes.

A. No sir.

1084 X Q. 266. In total?

A. No sir; I don't think there is; unless you divide the number of its structures with the total amount of that particular class of structures; then you could get it.

X Q. 267. Then exactly what did you do? State how you arrived at your computation of those values.

A. What do you mean by "those values"? What page are you looking at?

X Q. 268. Beginning with page 82 of the written report, the lumber bill, and running right through your report.

A. Do you mean how did I arrive at the value of the lumber?

X Q. 269. Yes.

A. I came down to San Francisco and inquired in regard to the prices of lumber.

X Q. 270. That is not what I mean. I am asking you to explain what your report means.

A. The question is so broad, I don't know exactly how to answer it. If you want me to take any one item here and go through it, I can tell you how I got it.

X Q. 271. Well in the first place, let us get at it in this way: In your lumber bill you have apparently all the material in those stop gates. That is the first thing you have.

A. Yes sir.

X Q. 272. Now then, you take the stop gates up again and you apparently compute the value of those things.

A. Yes sir.

X Q. 273. That is the next thing you do?

A. Yes sir.

X Q. 274. Now then, how do you get at your depreciation of that value?

A. Beginning on page 110 it is figured out.

X Q. 275. Do you figure it out as to each structure there?

A. As to each structure?

X Q. 276. Yes.

A. I did and then I afterwards segregated them.

X Q. 277. What I am trying to get at is, there is nothing here in this report that shows the amount of each structure?

A. No sir; only as to its class.

X Q. 278. You simply classify them?

A. Yes sir; there are so many of the same size and the 1085 same dimensions, and I treated them all as one structure.

X Q. 279. Now where have you got anything that shows how you arrived at this 300,000 yards of silt in the canal?

A. That was figured by the difference between the ideal cross-section of the canal from Mr. Goodwin's report and the difference

that we found in the cross-sections of the canal at various places when we made our report.

X Q. 280. Now how many cross-sections did you take of the canal?

A. Well, you might say we cross-sectioned it in a rough way at almost every bridge that we came to, wherever we could without getting into the water.

X Q. 281. How did you do that? How did you make your cross-sections?

A. We used a lath the most of the time; sometimes a stick. We used the length of it. We measured the length of it.

X Q. 282. You measured the length of it with a lath or stick?

A. We used it as a rule, you might say.

X Q. 283. In order to get at the depth of the water?

A. Yes sir.

X Q. 284. Did you keep any record of those cross-sections?

A. We kept a record of them up to the time we got through.

X Q. 285. Haven't you got them now?

A. No sir.

X Q. 286. You could not give, then, the location of any of those cross-sections?

A. No sir.

X Q. 287. Or the details of it?

A. No sir.

X Q. 288. Could you say in any general way as to where you found the most silt?

A. That was scattered all along the canal, from beginning to end. I don't remember just how we arrived at that particular 300,000 yards, but it seems to me that as I remember it now it was assuming that there was six inches or eight inches or a foot of silt from one end of the canal to the other. I don't know exactly how we did get it.

X Q. 289. It was nothing more than a rough estimate?

A. Nothing more than a rough estimate of the amount of silt.

1086 X Q. 290. A very rough one?

A. We were down there the next day. We were on the ground a third time. We based our conclusions on what we found on the ground. It is an estimate, though it is not accurate.

X Q. 291. Will you explain now more in detail how you made the cross-sections of the canal. You say you made cross-sections. What did you do? Just determined the depth in the canal and compared that with the depth of the ideal cross-sections?

A. No. Wherever we could get at it to make a cross-section of the canal we went out with a stick and measured the depth of the water in the canal, and then went on the bank, on to the side, just the same as we would make a cross-section in any piece of earthwork; although we didn't use a level for it, and we didn't do it accurately.

X Q. 292. What instruments did you take on this trip?

A. I had a tape and I think I had a hand level. I would not be positive, now; Mr. Smith or I—one of us did; and plumb bobs;

things of that kind. I don't remember; a transit or a level; that is, a large one.

X Q. 293. Did you have a meter, a water meter?

A. No sir.

X Q. 994. Did you take the velocity of the water?

A. No sir; I did not.

X Q. 995. Well now, did you make any computation as to the actual discharge of the canal at any place?

A. With a water meter? No. We had no meter on the job at all.

X Q. 296. Or any other way, did you?

A. I don't think we did.

X Q. 297. That is, you did not compute the theoretical discharge at any of the cross sections you made?

A. No sir.

X Q. 298. Will you explain to his Honor what is meant by a cross section, and how it is made when it is properly made?

A. Well, a cross-section of a canal?

X Q. 299. Did you ever make a cross section of a canal for the purpose of determining the discharge in the canal?

A. Many times; yes sir.

1087 X Q. 300. Just explain how it is done. What is necessarily done in order to do it accurately?

A. Do you mean the water or the earthwork?

X Q. 301. Well, the water.

A. One of the best ways is to stretch a string from bank to bank of the canal, and then measure the depth of the water, say every six inches on the string and plat it on a piece of paper.

X Q. 302. And then you have certain tables that you use, of coefficients of roughness and of velocity, in order to determine the discharge, don't you?

A. Yes sir.

X Q. 303. Now did you make any of those plats?

A. No sir, I did not. I didn't estimate the amount of water in the canal at all, nor the discharge.

X Q. 304. You had this report with you in 1896, as I understand you, of Mr. Goodwin?

A. Yes sir.

X Q. 305. You did not include, of course, in your report, the right of way—any value for that?

A. I did not; no sir.

X Q. 306. You did not take any account of any of the fences along the canal?

A. No sir.

X Q. 307. Now you say that you found some of the canal in bad order, do I understand you to say?

A. Yes sir; I don't know as I said it, but——

X Q. 308. Where did you find that, Mr. Sloan?

A. As I remember now, between Firebaugh and the headworks was the worse place.

X Q. 309. Now that is where this overflow had been that year, wasn't it?

A. Yes sir.

X Q. 310. The whole country showed a season of very extreme high water did it not—all below that?

A. No, I don't remember any signs of any extremely high water up there. I don't recollect it.

X Q. 311. What was the character of the bad condition that you found there?

A. Oh, there were several breaks in the banks of the canal
1088 which necessitated our tieing up our horse and walking.

X Q. 312. That of course was very discouraging.

A. It was during the hot season of the year; yes sir. It was pretty hot down there at that time.

X Q. 313. In estimating the hauling of lumber you took a flat amount for that, did you not, in your report, that you allowed for hauling, of $1 a thousand?

A. In arriving at that flat rate, yes. We took a flat rate. It happens to amount to a dollar.

Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. You have testified on cross-examination, Mr. Sloan, that you, in measuring the canal in regard to the amount of silting—to determine the amount of silting—that you used a slat for a measuring rod. I ask you whether or not as an engineering proposition you can determine approximately the amount of silting in that manner?

A. Well, you could approximately; yes sir.

R. D. Q. 2. With a level——

A. You could accurately; yes sir.

R. D. Q. 3. You could accurately, that is, at any particular point?

A. Yes sir.

R. D. Q. 4. Now the real question to be determined in a question of that sort—a measurement of that sort—is the filling up of the cross section of the canal from what was the original ideal section?

A. Yes sir.

R. D. Q. 5. And as you say, the most accurate calculation of that matter would be based, would it not, upon cross-sections taken with levels at close intervals?

A. Yes sir.

R. D. Q. 6. But an approximation would not require such close measurements or close sections, would it?

A. No sir; it would not.

R. D. Q. 7. What you did, as I understand it, was to make what you say was a rough or approximate estimate in that report?

1089 A. Yes sir.

R. D. Q. 8. Mr. Sloan, from the examination that you made of his canal in regard to the silting, was the estimate which

you have given in your report of the silting at 300,000 yards approximately greater or less than the actual silting?

A. Approximately less.

Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. As I understand it, you have no figures at all from which you estimate this silting?

A. The silting?

R. X Q. 2. Yes, no figures.

A. No, I have not now.

R. X Q. 3. All you did was to measure the depth of the water at these points?

A. Yes, and the loose mud, of course.

(Further hearing postponed until Tuesday, December 29, 1908, at 10 a. m.)

1090 TUESDAY, *December* 29, 1908—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of JOHN Q. DRUMMOND, called for defendants.

By Mr. LANGHORNE:

Q. 1. Mr. Drummond, you were a witness in this matter before, on this hearing on behalf of the complainant in this suit?

A. Yes.

Q. 2. You reside, Mr. Drummond, at what place in this state?

A. In Merced County.

Q. 3. Near what place?

A. Ingomar.

Q. 4. And how long have you lived in Merced County?

A. Since about 1872.

Q. 5. Did you know the canal, this canal which this suit is about, now belonging to the complainant canal company?

A. Yes.

Q. 6. And which was originally, I believe, generally known as the San Joaquin & Kings River Canal? I am not sure of the first name. It had various names.

A. I think not. The San Joaquin Canal & Irrigation Co.—I think it has gone under that name.

Q. 7. What connection, if any, did you have with the canal at first?

A. Well, I was superintendent of the construction at first, of the first 39 or 40 miles of it; from the headworks to Los Banos Creek.

Q. 8. Did you commence the construction of the canal?

A. I was there at the commencement.

Q. 9. That was about 1871, was it not?

A. 1871, yes.

Q. 10. The first portion, then, of the canal that was constructed was, I understand it, when you were superintendent of con-
1091 struction, and was from the headworks at Fresno Slough, at the junction of Fresno Slough and the San Joaquin River, to Los Banos Creek?

A. Yes sir.

Q. 11. About what distance was that?

A. I think it was about 39 miles; perhaps a little over. Between 39 and 40, I think.

Q. —. That does not embrace what has been spoken of as Extension A of the canal, does it?

A. No sir.

Q. 13. Is that portion from the head works to Los Banos Creek the main canal exclusive of Extension A?

A. Well, it was, and Extension A is simply a continuance of the same canal.

Q. 14. Where does Extension A commence?

A. It commences at the Los Banos Creek.

Q. 15. About what was the time, the date, that the construction of the main canal from the head works to Los Banos Creek was completed?

A. The earthwork I think was completed in November of 1871, but still there was a great deal of bridge work and irrigation boxes or outlet boxes, you might call them.

Q. 16. At the time, or when the first portion of the canal was constructed, as you have stated, that is, commencing at the headworks, was any portion of a slough used for the purposes of the canal?

A. Yes sir.

Q. 17. What was the name of that slough?

A. I don't know that it had a name. It might have been La Junta. There was a little Mexican village on the slough, of that name.

Q. 18. Mr. Drummond, I call your attention to the map in evidence here, of the main works of this canal system, and known as the Complainant's Exhibit 2, and ask you to look at it. Now here is the San Joaquin River coming down to its junction with Fresno Slough. You see Fresno Slough?

A. Yes.

Q. 19. And here is the present weir or dam of the canal, right here.

A. Yes.

Q. 20. Here is a slough called on this map, China Slough, which makes out from Fresno Slough, you see there?

A. Yes.

Q. 21. And then it runs down to a point here, where it
1092 joins a canal from above the dam, you see, to its junction with China Slough?

A. Yes.

Q. 22. And then on down, you see on the map here, coming down northwesterly—in a northwesterly direction, you see?

A. Yes.

Q. 23. You understand the situation from the map here?

A. Yes, I understand that, and I understand China Slough there, because there was a China house there.

Q. 24. So that was the slough that was utilized, was it?

A. Yes sir.

Q. 25. Now when the canal was originally constructed, and when you were superintendent, was not the head of the canal the head of China Slough?

A. No sir.

Q. 26. It was not?

A. No sir.

Q. 27. Where was the head of the canal?

A. The head of the canal was where it is at present, just above the weir.

Q. 28. Well now, just please look at that map, Exhibit 2. I will ask you if when the canal was first constructed the old dam was where the present dam is. Is that right?

A. No, it was higher up.

Q. —. Well, the present canal which is cut from the river, the San Joaquin River, to where it joins China Slough as shown on this map, was that so at that time?

A. The headgates of the canal are, I would say, 200 yards, maybe 300 yards, below the junction of Fresno Slough and the San Joaquin River.

Q. 30. That was originally, was it?

A. Yes sir.

Q. 31. Then this piece of canal shown on this map, you see, which takes out of the river ahead of the dam, and running down to the junction of China Slough, was that so at the time of the first construction?

A. You mean the junction of China Slough now?

Q. 32. No sir.

A. The main canal?

Q. 33. Yes sir.

1093 A. Yes sir.

Q. 34. Down to its junction with China Slough?

A. Yes sir.

Q. 35. As shown on this map?

A. Yes sir.

Q. 36. Now then, from the junction of the main canal with China Slough as shown on this map, you understand——

A. Yes.

Q. 37. I will ask you whether or not the canal from that point used the bed of China Slough for purposes of the canal.

A. We put a headgate in the China Slough at the same time that we put a headgate in our main canal, but it went out at the first high water and we filled it up with earth when the river was down and didn't use it any more while I was on the canal.

Q. 38. Well now I would like to know how much then, of China Slough—pleas- look at the map here—how much of China Slough there was used for the purposes of the bed of the canal when it was first constructed.

Mr. TREADWELL: What distance, you mean?
Mr. LANGHORNE: Yes, what distance.

A. I think it was three-quarters of a mile.
Q. 39. Do you remember how far China Slough ran towards Firebaugh?
A. Yes.
Q. 40. Well, about how far?
A. It runs clear down and connects with the river again.
Q. 41. At what point?
A. Just above Firebaugh.
Q. 42. Just look at the map here, Mr. Drummond, and see. Do you know where what is known as the Firebaugh outlet or waste is? Do you see it marked on this map?
A. Yes, I know where it is. (Pointing.)
Q. 44. About there?
A. I think so.
Q. 45. Did the China Slough originally run down to that point?
A. Part of it did. There were several branches after it got down in the bottom land. Part of it came down where the waste gate was put in.
Q. 46. Now, Mr. Drummond, according to this Exhibit 2 there were apparently three miles of China Slough used upon
1094 their canal?
A. Yes, I think it was 2½ or 3 miles.
Q. 47. According to this map, down to a point in section 11 of township 13, you see?
A. Yes, I don't see it very well on this map, but in my mind I have the whole situation.
Q. 48. Can you see the point I am pointing to in section 11 of township 13?
A. Yes.
Q. 49. Now you can see Firebaugh Waste, can't you, on this map—"outlet" it is called?
A. Yes.
Q. 50. Well I will ask you whether any portion of the canal you see here on this map, between this point where the China Slough apparently ends in section 11 down to the Firebaugh outlet, you see, was a part of the China Slough originally?
A. There was 2½ or perhaps 3 miles of China Slough used as a canal. But when the canal came out of that it made a clear cut through the land.
Q. 51. Do you know how far southeast of the Firebaugh Outlet or waste that that clear cut was?
A. No, I could not tell you. I would not be certain about the distances.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Mr. Drummond, do you know where the canal now, at the present time, enters China Slough—that is, from the river?

A. Do you mean the upper or the main canal?

X Q. 2. Yes, that is, at the present time.

A. Yes, it has been all the time there.

X Q. 3. That is just the same as it always has been?

A. Yes.

X Q. 4. You know now where the main canal leaves China Slough and goes down toward Firebaugh?

A. Yes sir.

X Q. 5. Is that exactly the same place as it has always been?

A. Yes sir, unless there has been a change made within the last few years. I have not been over it in perhaps three years.

X Q. 6. As far as you know it is the same?

1095 A. Yes.

X Q. 7. The last time you were there it was the same place?

A. Yes.

— Q. 8. As to the exact distance through which the canal uses China Slough as a bed, you are simply giving your best recollection without attempting to be accurate as to measurements, of course?

A. Yes.

X Q. 9. When you spoke about the building of the main canal from the headworks to Los Banos Creek, did that include what was called the parallel canal?

A. No sir.

X Q. 10. Just one of those canals?

A. Just one canal.

X Q. 11. Do you remember, Mr. Drummond, about how much it cost per cubic yard to excavate that canal at the time you excavated it?

Mr. LANGHORNE: We object to that as not cross-examination.

The MASTER: I suppose that objection is good, if we hold to the technical rule. But perhaps counsel can waive the objection and let us get along with the witness.

Mr. LANGHORNE: I don't think he is entitled to use the witness in that way.

The MASTER: I sustain the objection.

(By Mr. TREADWELL:)

X Q. 12. Do you remember, Mr. Drummond, whether any excavation work was commenced in China Slough at the time you made the canal, or you did any excavation work in the slough itself?

A. Yes, I done some at the head of the slough.

X Q. 13. Do you remember the exact amount of that excavation at that time?

A. No, I do not. It was not very much. It didn't extend down very far.

Mr. TREADWELL: I think that is all.

(Further hearing continued subject to notice.)

MONDAY, *March* 1, 1909—at 10 a. m.

Counsel appearing:

1096 For complainant: E. F. Treadwell, Esq.
For defendants: J. P. Lankhorne, Esq.

Examination-in-chief of E. S. WANGENHEIM, called for defendants, sworn:

By Mr. LANGHORNE:

Q. 1. Where do you reside?
A. At Newman.
Q. 2. That is in Stanislaus County?
A. That is in Stanislaus County, yes sir.
Q. 3. How long have you resided in that county?
A. Well, at Newman for 20 years, at Hills Ferry for 10 or 12 years prior to that.
Q. 4. In what county is Hills Ferry?
A. Stanislaus.
Q. 5. What business are you engaged in?
A. In the mercantile business, farming, cattle and other lines.
Q. 6. How long have you been engaged in the farming business and the cattle business?
A. Ever since I was in that country.
Q. 7. Do you know the canals and works of the complainant in this case?
A. I do.
Q. 8. How long have you been acquainted with them?
A. Well, with some of them, I guess, for—well, over 30 years anyway.
Q. 9. Do you know generally of the country that is and has been irrigated by the complainant's canals?
A. Very well.
Q. 10. Do you know about how many acres are under irrigation by the complainant's canals—that is, of farming lands?
A. Well, I could not say that; I could not estimate that very well.
Q. 11. Do you know about where those lands lie with reference to the San Joaquin River?
A. I do.
Q. 12. Then where do those lands lie with reference to the head of this canal and the course of the canal?
1097 A. They lie northeast of the canal, as a rule.
Q. 13. Is there any source other than that of the complainant's irrigation system or canal system from which the lands in

Fresno, Merced and Stanislaus Counties below the head of the complainant's canal can be irrigated?

A. Not that I know of.

Q. 14. I presume there are some lands along the San Joaquin River that are irrigable from the sloughs at certain seasons, are there not?

A. Yes sir.

Q. 15. But with that exception, there is no other source from which other lands—that is, right along the San Joaquin River and those sloughs—can be irrigated?

A. No.

Q. 16. There is no other irrigation or canal company or concern or association on the West side of the San Joaquin river, is there, in that locality, other than that belonging to the complainant?

A. None in our locality. There may be some other associations, I don't know. But none of them furnishing water.

Q. 17. None furnishing water?

A. None furnishing water.

Q. 18. Are there any waters available for the irrigation of the lands lying under the complainant's canal other than those that are appropriated by the complainant for that purpose?

A. I have never seen or heard of any.

Q. 19. Do you know of the lands belonging to Miller & Lux, that are watered or irrigated with the waters from the complainant's canal and that are used by Miller & Lux, not for farming lands but for grass lands for pasturing cattle?

A. I know of some of them, yes.

Q. 20. In what counties do they principally lie?

A. Well the principal lands are in Fresno and Merced Counties.

Q. 21. Are you familiar with or do you know about the value of water for irrigating farming lands in Fresno and Merced Counties?

A. I don't——

1098 Mr. TREADWELL: Wait a minute. Just answer that question yes or no.

A. I can't answer it yes or no unless I understand it.

(Question read.)

(By Mr. LANGHORNE:)

Q. 22. I will change it and put it: The reasonable value for water per acre for a year for irrigating.

(Question read as amended.)

Mr. TREADWELL: We object to that as immaterial.

The MASTER: I overrule the objection.

A. I think so.

(By Mr. LANGHORNE:)

Q. 23. Do you know the reasonable value of water per acre per year for irrigating grass lands for pasturage purposes in the Counties of Fresno and Merced?

A. I know what I would be willing to pay for them.

Q. 24. Well, that is not an answer to the question.

A. I consider what I would be willing to pay would be a reasonable value.

Q. 25. Just answer the question, Mr. Wangenheim.

A. I do.

Q. 26. Now, for, say, for the year ending June 30, 1908, what in your opinion was the reasonable value per acre for that year for irrigating from the complainant's canals the grass lands of Miller & Lux, used for pasturage purposes in the County of Merced?

Mr. TREADWELL: We object to that on the ground that it is incompetent, irrelevant and immaterial, not the subject of expert testimony. The witness has shown no efficient ability to base an opinion on.

The MASTER: I overrule the objection.

A. Well, I think that for the purpose of irrigation of the grass lands that 50 cents an acre would be a reasonable valuation.

(By Mr. LANGHORNE:)

Q. 27. And for that same year in the County of Fresno?

Mr. TREADWELL: The same objection.

1099 The MASTER: The same ruling.

A. I think the same rate.

Mr. LANGHORNE: Take the witness.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Mr. Wangenheim, are you associated with a company generally known as the Simon Newman Co.?

A. I am.

X Q 2. How long have you been associated with the Simon Newman Co.?

A. Ever since it was incorporated.

A. And how — is that?

A. I think it is 11 years.

X Q. 4. Is that company a large land owner under the canals of complainant?

A. It is.

X Q. 5. And is a consumer of its water in large quantities?

A. It is.

X Q. 6. Probably one of the largest consumers outside of Miller & Lux?

A. I think so.

X Q. 7. The Simon Newman Co. is also a competitor in certain business lines with the firm of Miller & Lux in the town of Newman, is it?

A. Not that I know of.

X Q. 8. Well, it conducts a mercantile store there, does it not?

A. Yes, but Miller & Lux do not.

X Q. 9. Have you any connection with the Water Users Association?

A. I have.

X Q. 10. What connection have you with it?

A. I am the president of it?

X Q. 11. How long have you been president of that association?

A. Since its organization.

X Q. 12. Which was at what time?

A. Since the commencement of this suit.

X Q. 13. Prior to that was there a Water Users Association in those Counties?

A. No, there was not in those Counties. There was one in

1100 Stanislaus County.

X Q. 14. And what connection, if any, did you have with the old Association in Stanislaus County?

A. I was the president of it.

X Q. 15. You have contributed, have you, to the defense of that suit?

A. Yes sir.

X Q. 16. You have attended to the employment of counsel, have you not?

A. In connection with the Board of Directors.

X Q. 17. And that Association is providing the sinews of war for this case, I suppose?

A. Yes sir.

X Q. 18. Now, you state that so far as you know there is no source of water supply for the irrigation of the lands along the complainant's canals other than the water supplied by the complainant through those canals? You are familiar, I suppose, with the San Joaquin river?

A. Yes sir.

X Q. 19. The complainant's canal does not take all of the water in the San Joaquin River, does it?

A. No.

X Q. 20. How great a stream is the San Joaquin River—what is its maximum?

A. Well, that I am sure I don't know what its maximum is.

X Q. 21. Well, you know that it runs up to as much as 10,000 cubic feet a second, do you not, at times?

A. I am not at all familiar with the measurement of the water, but I know it gets so small that you can step across it in the summer times, as I also know that it gets so big that you could run an ocean steamer on it.

X Q. 22. And when you say you can step across it in the summer time, you mean down towards Crows Landing, or some place down there below the complainant's headworks? That is correct, is it?

A. Yes sir.

X Q. 23. You can't step across it higher up, can you?

A. No.

X Q. 24. At any rate, you know that when the river is at what

can be called a reasonable flow, the canal company does not
1101 take anything like all of the water in that river, do you not? You know that, do you not?

A. When the river is full, no, they could not.

X Q. 25. Now, so far as you know, that water that they leave in the river is just as good water for irrigation as the water they take out, is it not?

A. Yes.

X Q. 26. There is nothing that you know that makes it any less valuable for the purpose of irrigating land?

A. No.

X Q. 27. And you know that with the consent of the riparian owners along that river, if Mr. Simon Newman wished to open up his purse and buy them out and put a proper irrigating system in parallel with the system of complainant, and a proper weir in the river, that he could take water out of that river which could be used for the irrigation of these same lands, do you not?

A. At times, yes.

X Q. 28. Of course, he could not take the water that the canal company had already got a sufficient right to. That is what you mean by "at times"?

A. I mean that at times there is not enough water to supply the canal company; and so if a person would put an independent system there, at the time the water was needed the most, he could not get a drop. When the river is high, you can irrigate most anything. In other words, when you don't want it there is always plenty.

X Q. 29. You have stated, Mr. Waugenheim, as to what you consider the reasonable value of the water per *acre* for the irrigation of lands in the Counties of Merced and Fresno?

A. Yes sir.

X Q. 30. Do you know the amount of feed that can be produced on those lands and is produced on them by simply the effects of the wild irrigation?

A. I don't understand the question quite. Do I know the amount of it?

X Q. 31. Yes.

A. How are you going to determine the amount?

X Q. 32. Well, how would you determine it?

A. Well, I don't know unless I cut it for hay, is the only
1102 way I could determine.

X Q. 33. That is just what I am asking. Have you ever cut any for hay?

A. No, I have not.

X Q. 34. Well, have you ever fed it?

A. I have.

X Q. 35. Well, how many head of cattle can be sustained on that character of feed?

A. That depends entirely on the length of time.

X Q. 36. Well, take it for a year.

A. If you had water for irrigating it?

X Q. 37. Yes.

A. I think you can keep—it would take about three acres for one beef.

X Q. 38. Now suppose you took that same land that you have in mind and you didn't have any irrigation on it at all, or any irrigation on it at all, how many acres would it take for a beef?

A. Ten or twelve.

X Q. 39. Now what is the profit that you can make on beef, per head by feeding a year?

A. Well, that is a question that I don't think any living man can answer, what profit you can make on a head of beef per year. It all depends on what you buy them for, and what price you sell them for. I have known beef to sell for 5 cents a pound and I have known it to sell for 10 cents. It varies just as much as the rain does; just as much as the rainy days do in the month.

X Q. 40. I supposed there would be the same difficulty also in saying what you value the water at. You seem to put a value on the water. Now approximate as closely as you can about what you would figure, or how you would put the profit of a head of beef per year?

A. I could not approximate it. It would be a matter impossible to approximate, because it depends entirely upon conditions.

X Q. 41. Between what figures would it lie?

A. Between what figures?

X Q. 42. Between what figures? Yes. The minimum 1103 and maximum profit?

A. Oh, the minimum profit would be nothing, and the maximum profit would be—well, that is very hard to say; maybe $40 a head.

X Q. 43. Now, you can give what your experience has shown to be an average profit during this long series of years?

A. My experience has not enabled me to show an average profit, because it varies with conditions. Some years we have made a very heavy loss, and other years we have made quite extensive gains, and I can't figure out an average, because it is impossible in my mind to figure out an average profit a head.

X Q. 44. Well, your average is what you make after you get through, isn't it, on an average?

A. Yes, that would be the average.

X Q. 45. Now, you know you have not lost money on your business?

A. I am not prepared to swear to that, either.

X Q. 46. Are you familiar with the price paid for water in other localities other than this particular county?

A. No.

X Q. 47. And you don't know, for instance, the amount paid per acre for the right to irrigate under the Riverside or Gage Canals in Los Angeles County?

A. No.

X Q. 48. You don't know the price paid for the right to irrigate under the Riverside Highlands Water Co.'s canal, do you?

A. No sir.

X Q. 49. You don't know the price paid for the irrigation of land in the Imperial Valley?

A. No sir.

X Q. 50. You don't know the amount paid per acre for irrigation under the canal of the Fresno Canal & Irrigation Co.?

A. No sir.

X Q. 51. You don't know the amount it costs to pump water for irrigation through the San Joaquin Valley, do you?

A. No sir.

X Q. 52. You don't know the amount per acre for the irrigation of lands in Yolo County under the Yolo County Consolidated Water Co.'s canal?

A. No sir; I told you I didn't know what was paid by
1104 any other irrigation company. You can save yourself the trouble of going through it. I only know what is being paid along the San Joaquin and King's River canal system.

X Q. 53. That is all you know about it? Do you irrigate any land, or does the Simon Newman Co., for wild grasses?

A. We have at times.

X Q. 54. Where?

A. On the San Luis Creek.

X Q. 55. Where else?

—. That is about the only place that I know, of, that we have irrigated for any wild grass.

X Q. 56. The San Luis Creek is a torrential winter stream, is it not?

A. Yes.

X Q. 57. And runs about how late in the year?

A. Sometimes it don't run at all. It runs spasmodically in the winter.

X Q. 58. It depends entirely on the rain?

A. Yes.

X Q. 59. And is not fed by snows, and has no summer flow whatever?

A. No.

X Q. 60. In other words, it flows during that time of the year that you describe as the time when you don't want the water?

A. Well, on wild lands we always want water.

X Q. 61. I mean, as a general proposition it does not run in what is called the irrigation season?

A. No, it does not run in what is called the irrigation season.

X Q. 62. Of course, you can irrigate for wild grass any time of the year?

A. Yes.

X Q. 63. That is the only personal experience that you have had in the irrigation of wild lands?

A. That is the only personal experience.

X Q. 64. Are you acquainted with the land, Mr. Wangenheim, that is not under the present canal but is at the end of the canal

and could be brought under it by the immediate extension of that canal?

A. I am.

X Q. 65. Do you know such land, for instance, as the Patterson Ranch?

A. Yes sir.

1105 X Q. 66. Now, do you know what people in that neighborhood would be willing to pay in order to bring their lands under irrigation from this canal?

Mr. LANGHORNE: We object to that as not proper cross examination.

Mr. TREADWELL: I submit that it is proper cross examination. The witness has testified to what I may say is an absurdity, in attempting to testify as to the value of this water for irrigation. No matter what he says about it, the value would depend somewhat on what other people would pay for it. The fact that he says that he would not pay anything for it does not prove, your Honor, or to me or any other intelligent man, the value. I have a right to cross examine him to show that it is a good deal more valuable because he could sell it to other people for a good deal more than what he says it is worth.

Mr. LANGHORNE: The question is of such a character that I cannot tell what counsel is driving at. The question apparently is as to the value of the land down at the end of the canal.

Mr. TREADWELL: I will change the form of the question:

X Q. 67. Do you know what those people would be willing to pay the complainant for delivering to them water for the irrigation of those lands?

Mr. LANGHORNE: We object to that as not proper cross-examination, because the witness's examination has been confined to the irrigation of pasture lands, in Merced and Fresno Counties, and this question is directed to lands generally at the end of the canal in Stanislaus County.

Mr. TREADWELL: We submit that the value of this water cannot be determined by any such proposition. If a man has water and he can sell it for one purpose, and he can get a certain price for it, it is not probable that he will sell it for another purpose, at a great

1106 deal less price.

The MASTER: I overrule the objection.

Mr. TREADWELL: We take an exception.

A. I do not.

Mr. TREADWELL: That is all.

1107 Examination-in-chief of CHARLES Z. MERRITT, called for defendant.

By Mr. LANGHORNE:

Q. 1. Mr. Merritt, in this case on complainant's motion for injunction you made an affidavit, did you not?

A. I did.

Q. 2. That affidavit appears in this printed book in this case in the affidavits filed on motion for injunction, commencing on page 203?

A. That is correct.

Q. 3. Now commencing on page 204 and up to and including page 210, you gave certain itemized statements of the Maintenance Account of complainant from 1895 to 1906, both inclusive, did you?

A. I did.

Mr. LANGHORNE: If your Honor please, we ask that those itemized statements be admitted in evidence.

Q. 4. These are the statements of Maintenance which were filed on your motion, were they?

A. Yes sir.

Q. 5. And are relied on by the complainant in this case?

A. Yes sir.

Mr. LANGHORNE: We ask that they be admitted in evidence and marked as an exhibit and ask that they be copied into the record among the exhibits being pages of this printed book 204 to 210 inclusive.

(Marked "Defendant's Exhibit O".)

Q. 6. Now, Mr. Merritt, in that Maintenance Account of 1906 I asked you to be prepared to testify to certain matters. Have you got those made up?

A. There was really not anything to make up. I am prepared to answer your questions.

Q. 7. I will ask you about that item of dredge operating in the account of 1906 $6,673.27. For what was that?

A. That was the expense of operating the dredge in that year, and as I supposed at the time the accounts were made up at the close of the fiscal year, it was for maintenance. I have been making
1108 inquiries about that, since you raised the question, and the present superintendent is of the opinion that there was a part of them that should have gone to Betterment Account. If so, it was due to a misunderstanding between the superintendent at that time and my office and it is utterly impossible to tell what percentage of the account should have been charged to Betterments, if any.

Q. 8. When you say "Betterments" you mean probably digging out the canal in extension work, or something of that sort?

A. I mean, enlarging of the channel. Our instructions to our superintendents for many years have been to carefully discriminate in rendering their statements between maintenance work and betterment work, so that we might charge "Betterment" to the plant and "Maintenance" merely to operating expenses; and that has been done so far as I know. But you will realize that in changing superintendents from time to time, and even under the same superintendent when he is changing his men, there is liability that some work might be done which would be in the nature of a betterment, and the man in charge should not realize it, and therefore should not report it. So I am not prepared to say that that has never been done. Our

effort has been to prevent its being done. Now in this particular case my understanding of it was, that the work being done by the dredger in that year was the cleaning out of the old channel of the canal below the point where the original cut from the headworks entered China slough. There had been a growth of willow trees along the bank and a great deal of the expense incurred was in pulling out the stumps and roots that had grown out in the channel of the canal. The channel had in that way become obstructed by the lodgment of silt against the roots and growth of grasses etc. And so far as I was aware at that time, the expense was in removing those ob-
1109 structions and restoring the original conditions. Our present superintendent, who, however, was not cognizant of the actual conditions during the early years of the canal's history, and cannot speak positively about it, is of the opinion that there really was an enlargement of the original channel to some extent, but probably not to any very considerable extent; and it is therefore possible that there may have been some element of betterment in that, in way of enlargement of the channel. But that fact was not known to me at the time that I made the entry, and there was no data before me upon which I could have based a segregation of the account, had I known it.

Q. 9. Now, the next item, "Horses and Feed, $3858.73?"

A. That is entirely "Maintenance."

Q. 10. And the next item, "Labor, $13,242.81?"

A. That also is entirely "Maintenance."

Q. 11. And in what way was that labor expended?

A. I cannot tell you now. The pay rolls for that year would probably show what the labor performed was.

Q. 12. In a general way?

A. I don't know whether it would specifically show it to you or not. I didn't bring the pay rolls with me. I didn't analyze the account. I only know that it was for maintenance work.

By Mr. TREADWELL:

Q. 13. You can tell in a general way what it consists of, can't you, that is, the character of the labor that you were engaged in?

A. Well, in part. I don't suppose I could tell you everything, because it was not under my observation. There was of course, the usual work of maintaining the banks of the canal, and the work of the zanjeros in taking the records of measurements and the records of acreage. The measurement system which was introduced just before that time entailed a very heavy increase of zanjero work. We had to employ more men and had to employ a better class of
1110 men than we did under the old acreage system. We were really keeping two sets of records.

By Mr. LANGHORNE:

Q. 14. The measurement system was not in force in 1906, was it?

A. It was not in force in the sense that we could charge by measurement. But we kept our record just as though we would charge. We began doing the measurement work before that time so as to have

a basis upon which to make a measurement rate, and we gave notice to our customers that we intended to adopt a measurement system as soon as we could lawfully do so, and if that measurement system would apply to this year, that we were keeping the records, we would have them charged accordingly.

Q. 15. Now, Mr. Merritt, if you have not some of those bills how can you say that it is all for maintenance? Or if any of that item was for maintenance?

A. Well, I can say that because I know that those were the instructions, to charge all items of expense for betterments to betterments account, and those items which were not charged to betterments account were charged to maintenance account. I did examine the pay rolls that came in from time to time to satisfy myself that they were correct, but I can't tell you now definitely just what the items were that went into it. I know in a general way that these items did increase the pay roll to a considerable extent.

Q. 16. Do you know that no part of that sum, of that item, was expended, say for building a new bridge?

A. I feel very sure of it, because the instructions were very definite, and it was well understood that whenever any such work was done the labor item of that work should be charged to the account of that bridge, not to general labor account. It could not be charged to both; and the books were always kept with a view to entering the cost of those betterment items.

Q. 17. Well, in other words, your testimony amounts to this, that you believe that your instructions were followed out in that matter?

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A. Yes.

Q. 18. And that is the only personal knowledge you have about it?

A. That is the only personal knowledge I could very well have. I was not on the ground.

Q. 19. Now, "Lumber and Piles, $1,704.55?"

A. My answer applies to that.

Q. 20. "Subsistence, $5,378.63?"

A. The same answer applies to that.

Q. 21. Now, as to the account for the year 1907.—did I ask you about Subsistence?

A. Yes.

Q. 22. And that is the same is it?

A. Yes.

Q. 23. You gave orders to have that segregated and you presume they were carried out?

A. Yes.

Q. 24. Now then, in 1907, here is a feed item of $3,469.06. Is that the same answer?

A. The same answer.

Q. 25. And in regard to the subsistence item of that year, $3,608.25?

A. The same item.

Q. 26. And the item of 1907, canal cleaning, balance 1906-7, work $6500?

A. Well, that was the balance of the cost of cleaning the canal in 1906-7. It was not on the books at the close of the fiscal year 1906.

Q. 27. And no part of that was for enlargement or extension of the canal?

A. No.

Q. 28. In the account of 1907, I note that you have under the head of "Cleaning Canal, 1907-8, work, $8977.26." How is it as to that?

A. That was the cost accrued up to that date on the next year's cleaning.

Q. 29. Then the next item, "Dredging Repairs and Maintenance, $1975.85." Does what you said about dredging in 1906 apply to that?

A. To an extent; to a limited extent. The operation of the dredge ceased early in April, 1907, and from that time on the expense was simply taking care of it. A watchman was on board, and there were certain repairs going on, on the machine at times.

1112

Q. 30. That dredge was also used for widening and deepening the canal?

A. I don't know about deepening the canal. It was used for the first three months of that fiscal year, that is, up to February, 1907, in the same way that it had been used prior to that time, and the expenses were something like $1200, no, it was $1400; as I recollect it, $1400 up to the time that the dredge was laid up. After that there was no work being done. It was simply the expense of caring for the dredge and the expense of the depreciation of the dredge that entered into the item.

Q. 31. Now, in the year 1907, under the item "Labor, $1007.35", Was all that used in maintaining the canal?

A. Yes.

Q. 32. And is that in the same condition—is your testimony the same as to the corresponding term for the year 1906?

A. Yes.

Q. 33. And then you have "Re-surveying and Mapping" in the year 1907 the item of $2306.59. Why was that charged to maintenance?

A. Because we deemed it a proper charge to that account. It is the expense of keeping our maps up to date for the purpose of being able to make our charges according to the plats.

Q. 34. And you have in that year 1907 "Poso Headgate & Weir $1537.57." Was any of that new construction?

A. No, that was replacement of an old structure.

Q. 35. Was not the Poso Headgate & Weir much enlarged at that time?

A. Not to my knowledge.

Q. 36. Was there not a new weir put in near that Poso Headgate at that time?

A. Only to replace an old one.

Q. 37. And there was not an entirely new weir put in?

A. Not according to my information.

Q. 38. Now in regard to the Maintenance Account ending June, 1908, the item "Dredge Operating, $1309.35." What operation was that of the dredge? That is, was it widening or extending the canal?

A. It is in part the same item as appeared in the previous
1113 year's statement, and the same conditions apply to that as to this which I have already testified to.

Q. 39. That is for the year 1906-7?

A. That is for the year ending June 30 1908. This statement you will remember, was not made at the close of our fiscal year, as all other statements were, but was made for the 12 months ending June 30, 1908, and therefore lapped back over the period covered by the annual statement of November 25, 1907, and takes in part of those items.

Q. 40. And you have made no segregation of those items, have you? I say, this so far includes no segregation of those items?

A. Do you mean segregated from this statement for the year ending June 30, 1908, such items as were also included in that item, in the statement ending June 30, 1907?

Q. 41. Yes.

A. I have not.

Q. 42. Now in your statement of 1907, November 25, you are charging in regard to dredge under the head "Dredge Repairs & Maintenance." Now for the year ending June 30, 1908, it is under the head of "Dredge Operating." Those are different things, are they not?

A. Yes. As I stated before, the dredge was not operated during the year ending June 30, 1908, and the account represented simply the cost of repairs and maintenance, and not the cost of operation. The item entitled "Dredge Operating" in the previous years included both operation, maintenance and repairs.

Q. 43. Then this item in this statement ending June 30, 1908, called "Dredge Operating $1309.35," was not a part of that cost of enlargement or extension?

A. No.

Q. 44. Or betterment?

A. No.

Q. 45. Now, then, the next item in the account of 1908, "Labor, $11,034.05", how about that, Mr. Merritt?

A. The same answer applies as in the case of the previous labor.

1114 Q. 46. Now in the case of "Lumber & Piles, $822.08?"

A. The same answer applies to that.

Q. 47. You mean to say that that was maintenance?

A. Yes sir.

Q. 48. That is, if your instructions were carried out?

A. Yes.

Q. 49. In the account of 1907 is an item "measuring Boxes, $594.34." Were not those new measuring boxes?

A. I am unable to state positively whether they were or not.

Q. 50. You stated awhile ago that about 1906 you commenced starting these measuring boxes, putting in boxes.

A. I have forgotten just the date when we started it. What I said was, that it was before the fiscal year, either at the beginning of that year or prior to that.

Q. 51. Now you say you are not certain whether that item in the account of 1907, was for new boxes or not?

A. No, I am not.

Q. 52. Then in the account of the year 1906, under the head "Measuring Boxes" is an item of $240.48. Do you know whether that was for new measuring boxes or not?

A. No.

Q. 53. In other words, Mr. Merritt, you are not positive now so as to be able to swear one way or the other about those items?

A. No.

Q. 54. Now in the account of 1907, I asked you about the Poso Weir. Now there is the Orestimba Creek Weir in one of those accounts.

A. In your letter you have left out as being in the account of June 30, 1908. It is not there.

Q. 55. What account was in?

A. I don't know. I didn't locate it. My recollection about that is that when the statement of June 30, 1908, was made up this item was included in it originally, and that I withdrew it because we found it had been included in error. I eliminated it and passed it up to our Betterments Account, eliminated it from the Maintenance statement, and filed a new statement which is now the Exhibit on file.

1115 Q. 56. Well, that is the way this is. I took that from that.

A. I think you took it from the original copy instead of the corrected copy.

Q. 57. Now, how about the original item, $2760.47?

A. My recollection is that that was charged to "Betterments." It never has gone into the Maintenance Account, because the year when we closed our books it was properly charged to Betterments Account. This arrangement, you know, was made on June 30, 1908, to cover the irrigating period, and in doing that we included what the bookkeeper at that time supposed was betterments, or at least was maintenance, and this item was included in error. We discovered that before we had gone very far and withdrew the statement, eliminated that item and filed a new statement, and when the books were closed down, we closed this item into Betterments and not into Maintenance. So I think you will find that that item was never reported as maintenance.

Q. 58. In 1908, I find a statement of "Subsistence, $1276.22." Is that in the same condition as to maintenance?

A. Yes.

Q. 59. That is, under that instruction you gave to have it charged?

A. Yes.

Q. 60. To have the betterments kept separate?

A. Yes.

Q. 61. And you presume that that instruction was followed?

A. Yes.

Q. 62. Have you the data I asked for in regard to the lawsuits shown in these different accounts commencing in 1906?

A. I have.

Q. 63. Have you got them written out so I can put them in evidence?

A. Yes. (Producing.)

Q. 64. Have you a copy of it?

A. This is the only copy I have here.

Q. 65. Well, the first item is "Water Rate Contest" in the account of 1906. You have produced a statement as to the different suits set up in the Maintenance Account of the years 1906-7 and 8.

1116 A. Yes sir.

Mr. LANGHORNE: I ask that the same be admitted in evidence as "Defendant's Exhibit P." (So marked.)

Q. 66. Now, Mr. Merritt, in the case of J. J. Stevinson against the Canal Company, in the answer of the Canal Company filed, I think, in 1903, or somewhere along there, there is set up that the Canal Company owned a lot of riparian lands, amounting to about 1600 acres. You had not before, had you, testified in that case about that land?

A. I don't remember whether I have done so.

Q. 67. From whom did the company acquire that land?

A. There were two holdings formerly owned by this company, owned at the time that the pleadings in the Stevinson case were filed. One tract was known as the Helm tract; the other was the land at the headworks. And I suppose that certain acreages from both these tracts were included in that 1600 acres to which you refer. There were riparian lands in both tracts. Therefore I presume that all the riparian lands in both tracts were so included. The land at the headworks, consisting of some 275 acres, must have been bought before the transfer from the original company to the San Joaquin and King's River Canal & Irrigation Co., which was the second company in the history of the enterprise, and I don't know from whom it was bought, or what was paid for it. The books of the old company were lost in the fire. The Helm tract was bought in 1873 from James Helm and consisted of 5,888 acres. At least, that was the acreage which he claimed to own. As a matter of fact, there was a contest between Helm and Miller & Lux as to part of that land. That is to say, there were certain swamp and overflowed land surveys which overlapped, and after Miller & Lux acquired control of the company a settlement was made. No, I think it was made before they acquired control. I know that the matter was left to

1117 a committee at one time, and my recollection is that it was before Miller & Lux acquired control. As a result of that settlement certain lands were conveyed by the Canal Company to Miller & Lux, and certain others by Miller & Lux to the Canal Company so as to clear the title. Finally, when the land was sold to the Las Animas & San Joaquin Land Co. in July, the acreage so

sold was 5055.38 acres, the company retaining its own right of way and reserving the right of way of the Southern Pacific Co. through the tract.

Q. 68. Over 5000 acres, do you say?

A. Yes.

Q. 69. How much do you say?

A. 5,055.38 acres were sold by the Canal Co. to the Las Animas & San Joaquin Land Co.

Q. 70. How much was it sold for?

A. $22,600. A part of the land at the headworks was sold to Miller & Lux at the same time, 196.57 acres for $2751.98.

Q. 71. Does that sale include any land on the east side of the San Joaquin River?

A. None to speak of. Some of these lands extended a little over the river.

Q. 72. Near the headworks?

A. And also some of the Helm tract. There were certain fractions that ran over the river and it was all conveyed to the Las Animas & San Joaquin Land Co.

Q. 73. So with the exception of the lands around the headworks there, the Canal Co. has disposed of its riparian lands, is that right?

A. Yes, with the exception of those which it now owns at the headworks.

Q. 74. And that amounts to about how many acres?

A. 78 and a fraction.

Q. 75. I asked you, Mr. Merritt, in making up this statement, about these suits contained in Exhibit P, if you would also indicate where the points of diversion complained of were with reference to the weir and headgates of the canal; also where the lands alleged to be riparian or the rights sought to be protected lie above
1118 or below the weir or headgate of the canal. I see from this exhibit that you have not done that.

Mr. TREADWELL: It is done in every case.

(By Mr. LANGHORNE:)

Q. 76. In regard to the suit of the California Pastoral & Agricultural Co. against Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Co. in the United States Circuit Court, Southern District of California, I will ask you where with reference to the weir and headgate of the complainant in this case is the Columbia Canal referred to in the California Abstracts?

A. It is above it.

Q. 77. How far above it? About how far?

A. I don't know, but I should say it is a couple of miles.

Q. 78. It is several miles, is it?

A. It is several miles.

Q. 79. Several miles above, on the San Joaquin River?

A. On the San Joaquin River.

Q. 80. And does not the Columbia Canal take out of what is known as Lone Willow Slough?

A. Yes.

Q. 81. Is it on the east side of the San Joaquin River?

A. It is on the east side of the San Joaquin River.

Q. 82. And the lands of the California Pastoral & Agricultural Co. are on the east side, are they, of the San Joaquin River?

A. Yes.

Q. 83. These lands in the case of Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Co. against Borland, the lands upon which this water referred to in that suit, where were those lands?

A. They were on Fresno Slough, above the company's head-works.

Q. 84. In the case of the Turner Estate vs. Borland, the suit brought in Merced County, that was with reference to the same Borland lands? That is, the same Borland lands were involved?

A. Yes.

Q. 85. And the Turner Estate lands, you say, were riparian lands on the San Joaquin River, below the head of the San Joaquin and Kings River Canal & Irrigation Co.'s canal, and on which
1119 side of the San Joaquin River were the Turner lands in that suit?

A. On the east side.

Q. 86. Then in regard to the case against the Turner estate, against the James & Enterprise Canal & Land Co., a suit in Merced County, the James lands and the lands of the Enterprise Canal Co. were where? Above the canal and weir of the San Joaquin & Kings River Canal & Irrigation Co.?

A. Yes.

Q. 87. And the Turner Estate lands were riparian, and on the east side of the San Joaquin River, were they?

A. Yes.

Q. 88. Below the head of the canal?

A. Yes.

Q. 89. Of the San Joaquin & Kings River Canal & Irrigation Co.?

A. Yes, sir.

Q. 90. In the case of Miller & Lux against Stevinson—where were the Miller & Lux lands situated, concerning which that suit was brought?

A. I suppose that it referred to the Miller & Lux lands on opposite sides of the river.

Q. 91. Riparian lands?

A. Yes, sir.

Q. 92. Were they below the head of the San Joaquin & Kings River Canal & Irrigation Co. dam?

A. They owned lands both above and below. I can't recollect it this moment, what lands were specifically referred to in that suit, but I should suppose it would refer to all their lands lying above Stevinson.

Mr. TREADWELL: That is correct; both above and below Stevinson and above and below this canal.

(By Mr. LANGHORNE:)

Q. 93. Is it not a fact that the major portion of the riparian lands of Miller & Lux involved in their suit against Stevinson lay below the weir and headgate of the San Joaquin & Kings River Canal & Irrigation Co.?

A. That may be true. I am not prepared to state now what proportion of their lands do lie below the headgate of this Company. I presume they do lie below the headgate.

Q. 94. A large proportion of them?

A. Yes.

1120 Q. 95. Are there any other of their riparian lands involved in this case—that is, the case of Miller & Lux against Stevinson that lie above the headgate of the San Joaquin & Kings River Canal & Irrigation Co's canal?

A. So understand.

Q. 96. Now then, in that case of Miller & Lux vs. Stevinson, that was with reference to the amount of water which the riparian land of Miller & Lux was entitled to as against Stevinson?

A. That is right. That is as I understand it.

Q. 97. Where was Stevinson taking the water out from the San Joaquin River?

A. Through the Eastside Canal.

Q. 98. And was that taken out of the San Joaquin River?

A. Yes.

Q. 99. Does that Eastside Canal head out of the river above or below the Weir and headgate of the San Joaquin & Kings River Canal & Irrigation Co.'s canal?

A. Below.

Q. 100. How far below?

A. Several miles. I don't know the exact distance.

Q. 101. Now the case of the California Pastoral & Agricultural Co. against Borland, you state that the California Pastoral & Agricultural Co. was the owner of riparian land on the San Joaquin River above and below the canal of complainant—that is what you mean?

A. You mean the complainant in this case?

Q. 102. Yes.

A. Yes.

Q. 103. Well, do you know what proportion of the riparian land of the California Pastoral & Agricultural Co. involved in that suit were above the canal of the complainant in that suit?

A. No, I do not.

Q. 104. Now you say in regard to this suit of the California Pastoral & Agricultural Co. against Borland, that it was brought at the request of Miller & Lux and the canal Co. I will ask you, did the San Joaquin & Kings River Canal & Irrigation Co. ever pass any resolution authorizing that suit to be brought?

A. I do not now recollect any such resolution.

Q. 105. Didn't you testify in this case that the litigation

1121 of the San Joaquin & Kings River Canal & Irrigation Co. was under the charge of Miller & Lux?

A. I don't know that I made any such statement.

Q. 106. Now, the next case, the Turner Estate vs. the Eastside Canal & Irrigation Co., was not that suit brought by the Turner estate on behalf of its riparian lands? Was it not brought by Elizabeth Turner as administratrix of the Turner Estate to protect her alleged riparian rights on the San Joaquin River?

A. The pleadings are not fresh enough in my mind to enable me to say just what they were now. I understand, though, that that is the fact.

Q. 107. And in regard to that suit of the Turner estate vs. the Eastside Canal & Irrigation Co., was any resolution ever passed by the San Joaquin & Kings River Canal & Irrigation Co. authorizing that suit to be brought?

A. I don't recollect any such resolution. There were some resolutions, I think, passed on that subject but I cannot state from memory just what they are. I can't state from memory whether there was any resolution on that subject or not.

Q. 108. In all of these cases, these different suits which you have mentioned in this statement, is it not true that in all suits wherein Miller & Lux and the Turner Estate and the California Pastoral & Agricultural Co. are parties, that such suits, so far as those parties were concerned, related to their riparian rights to take the waters of the San Joaquin River?

A. Yes sir.

Q. 109. And the only appropriator was the San Joaquin & Kings River Canal & Irrigation Co.?

A. Yes.

(By Mr. TREADWELL:)

Q. 110. That is, you mean as far as the parties plaintiff were concerned?

A. Yes. I don't know whether that was the case with regard to the California Pastoral & Agricultural Co.

Mr. LANGHORNE: Now, here is one case where Miller &
1122 Lux was defendant. Was not that over their riparian rights in that Columbia ditch?

Mr. TREADWELL: I don't know.

Mr. LANGHORNE: You think they appropriated water?

Mr. TREADWELL: Certainly.

(By Mr. LANGHORNE:)

Q. 111. Stevinson also claims as a riparian owner, does he not? Does not Stevinson in these suits claim as a riparian owner on the river?

A. I so understand.

Q. 112. I asked you if you would bring a copy of the articles of incorporation of complainant?

A. Yes. (Producing).

Q. 113. These were amended, I believe, in some particulars?

A. Yes.

Q. 114. Have you the amendment with you?

A. I have. (Producing).

Mr. LANGHORNE: I offer in evidence the articles of incorporation and amendments of the complainant Canal Company.

Mr. TREADWELL: We would like to know the object of that offer. There is no issue as to the incorporation of the complainant.

Mr. LANGHORNE: The object is to show that their charter does not authorize them to give away water for nothing.

Mr. TREADWELL: We don't claim any such a right to give away anything. If that is the only purpose for which it is offered we reserve our objection on the ground that the purpose stated is admitted in the pleadings, and therefore the offer is incompetent, irrelevant and immaterial.

The MASTER: The objection is overruled. The two papers introduced will be marked respectively: The one filed June 13 1905 will be marked "Defendants' Exhibit Q" and the one endorsed "Filed June 16, 1905," will be marked "Defendants' Exhibit Q-A."

Mr. TREADWELL: It may be stipulated that a copy of these may be made and the originals withdrawn, the copies to be inserted among the exhibits copied for the record.

Mr. LANGHORNE: Yes.

1123 Q. 115. Mr. Merritt, it several times appeared in your examination that your trial balance that you filed here for the year ending June 30, 1908, contains items of maintenance or what you claim to be maintenance, from the end of June, 1907. I would like very much if you could, before the end of the case, segregate these items so that we could ascertain as accurately as possible what are the items of expense and maintenance which the complainant claims to be correct for the year ending June 30, 1908?

A. I don't quite understand your request. We claim that the statement is correct for the year ending June 30, 1908. But necessarily the year ending June 30, 1908, must contain a portion of the period ending November 25, 1907. Now if you want me to segregate from the statement for you the period ending June 30, 1908, that portion of expense which occurred between July 1, 1907, and November 25, 1907, I can make you such a statement as that.

Mr. TREADWELL: He already did that.

(By Mr. LANGHORNE:)

Q. 116. Could you not produce, anyhow, a clear itemized statement such as you did, for instance, for the prior year? Could you not produce for the year ending June 30, 1908, a clear statement of what the complainant claims to be its maintenance account for that year?

A. I have done so.

Q. 117. Well, that is now in the shape of a trial balance.

A. It is not. I beg your pardon. It is in the shape of Maintenance Account.

Q. 118. Where is it?

A. Your Exhibit D.

Q. 119. That is for the year ending 1907.

A. Then I have got the wrong exhibit.

Mr. TREADWELL: You want the Exhibit of June 30, 1908?
Mr. LANGHORNE: Yes.
Mr. TREADWELL: Here it is.

Mr. LANGHORNE: Yes, you are right. This is Profit &
1124 Loss Account which includes Maintenance Account.

Q. 120. Are all the items then on this Exhibit 16 what you claim to be the maintenance account for the year ending June 30, 1908?

A. Yes sir.

Q. 121. And there are none on the other Exhibit except the statement in connection with your testimony heretofore given which are not properly chargeable as maintenance? Is that the idea?

A. That is correct.

(At the hour of 12 M. recess was had until 2 P. M., when proceedings were resumed as follows:)

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Mr. Merritt, as to your knowledge as to what are permanent improvements or betterments put on the canal, where a betterment is put on ordinarily are you informed or have you knowledge of that improvement before it is done, or afterwards?

A. Sometimes before, and sometimes not until afterward, but the expectation is that we shall always be notified.

X Q. 2. Any improvement of any magniture, I suppose, is first directed to be done by the officers of the corporation before it is done, is it not—before such work is done?

A. Yes sir. Mr. Miller may himself be on the ground and may do that without referring it to the Board.

X Q. 3. And then that is reported to you and put in the account of Betterments, is it?

A. Yes.

X Q. 4. In regard to the suits in which the Canal Company is interested, do the charges for those suits appear in the book of the Company in the same way that they have appeared in the papers that you have filed here, showing the Maintenance Account of the company?

A. Yes.

X Q. 5. What is your custom in regard to having the books audited by the stockholders?

A. One custom is for the stockholders at their annual
1125 meeting to appoint an auditing committee with power to employ an expert, and that auditing committee represent the stockholders in the examination of the books, and the books are audited through its expert, and the committee reports at the next meeting.

X Q. 6. And the subject of these various suits, is that a subject of discussion at the directors' meeting?

A. Frequently.

X Q. 7. In looking over your minutes do you find any particular reference to an authorization for the payment of expenses of any of this litigation?

A. Yes. I notice one resolution.

X Q. 8. Will you call my attention to it?

A. In the minutes of the meeting of the trustees of March 14, 1907, I find a resolution on the minutes which reads as follows: "On motion of Trustee Talbot, seconded by Trustee Monteagle, and carried unanimously, it was resolved, that this corporation do bear two-thirds of the expenses of any suits against J. J. Stevinson and the Eastside Canal & Irrigation Co. from which, if successful, this corporation will receive a preponderating benefit."

X Q. 9. That resolution was adopted by the directors, was it?

A. It was.

X Q. 10. Who was present at that meeting?

A. Trustees Allen, Lewis, Monteagle, Nickel, Talbot and also President Miller.

(By Mr. LANGHORNE:)

X Q. 11. Are there two Talbots?

A. Yes, there are two Talbots, but not, I think, at that time. That was a full board, Mr. Allen, Mr. Lewis, Mr. Monteagle, Mr. Nickel, Mr. Talbot and Mr. Miller.

(By Mr. TREADWELL:)

X Q. 12. As to this auditing committee, is the minority represented on that committee ordinarily?

A. Always.

X Q. 13. Counsel asked you if you had not stated somewhere in your testimony that Miller & Lux had entire charge of the litigation in which the Canal Company was interested, and you said 1126 that you didn't remember testifying to that effect. Irrespective of how you may have testified, is that a fact that Miller & Lux have any control of much litigation of the company?

A. No, not Miller & Lux as such.

X Q. 14. In regard to the matter of measuring water and selling water by measurement, what was the object, and what is the object and purpose of measuring water delivered to consumers?

A. To secure economy in the use of water.

X Q. 15. Had you found by experience that it was necessary to do that?

A. Yes.

X Q. 16. And these measuring boxes are for the purpose of measuring the amount of water delivered to each consumer?

A. Yes.

X Q. 17. Before those measuring boxes which you referred to in your testimony were put in, were there delivery boxes or delivery gates through which the water was delivered to the consumer?

A. Yes.

X Q. 18. And of course, that water could be measured in a way

by that method? I suppose by applying proper rules you could measure over such a discharge box over the Board, could you not?

A. Well, not to get an accurate measurement.

X Q. 19. It could not be done accurately?

A. No.

X Q. 20. And practically a man would have to stay there all the time in order to measure it? That would be the result, would it not?

A. Yes, and it required some modifications in the form of the boxes, to enable them to take measurements, and in many cases those boxes were so old that they could not be remodeled and had to be replaced, in order to put in the measurement boxes; therefore there was a considerable element of replacement there.

X Q. 21. In some cases you remodeled a box that was already there?

A. Yes.

X Q. 22. And in other cases it was too far gone and you 1127 had to put in an entirely new box?

A. Precisely.

X Q. 23. And then you had arrangements by which more accurate measurements could be made than what you could get by measuring over the board?

A. Yes, a level board had to be put in and an extension put on the box in order to put in flush boards and protect the gate from the flood pressure of the canal during the manipulation, so that it would be possible to adjust the gate without tearing it to pieces or straining it too much, or moving it too much.

X Q. 24. When you say that this item of $240.48 in the account of 1905—when you say that you don't know whether that was for new boxes or not, just explain what you mean, Mr. Merritt.

A. I mean to say that I have no information tending to show whether that was expended in putting in new boxes or repairing old boxes that were already in existence. The probabilities are that it was the latter, because new boxes would cost considerable more.

X Q. 25. You stated, Mr. Merritt, that in these various suits brought by Miller & Lux and the Turner Estate and the California Pastoral & Agricultural Co., that they were claiming as riparian right owners. I would ask you if that was true in regard to the diversions which they were attempting to enjoin? That is, were the defendants claiming as riparian right owners, or otherwise?

A. They were claiming as I understand it, otherwise.

X Q. 26. That is, for instance, the Fresno Flume & Irrigation——

A. Yes, they were appropriators.

X Q. 27. They were simply claiming the right to appropriate water?

A. Yes.

X Q. 28. And that Enterprise Canal Co.?

A. They were also appropriators.

X Q. 29. Now, the J. J. Stevinson in regard to whom you testified; I believe you testified before that he was the owner of the Eastside Canal & Irrigation Co.?

A. Yes.

1128 X Q. 30. Does that company claim as an appropriator also?

A. I suppose it does. The Stevinsons own riparian lands, but I don't know that the Canal Company does.

X Q. 31. In giving your statement some time ago, Mr. Merritt, in regard to taxes set forth in these various exhibits, paid by the company, I think you stated, if I remember rightly, that you did not put in franchise taxes in Fresno County excepting the fixed tax of $200 or $250, I forget which,—a sort of a license tax. Have you looked that up since to see whether there was any change in that regard in later years?

A. Yes, after giving my testimony about that, I noticed that for the last two years Fresno County has made a separate assessment for franchises. Formerly its assessment read something like this: "For a certain ditch, including right of way, franchise, and so on, so much." In 1907–8, that is, for the bill of 1907, they assessed us in Fresno County on the canal at the same rate as before, but added an assessment of $10,000 on the franchise, omitting the word "Franchise" from the description of the canal, &c.

X Q. 32. Now, have you got the total assessment for franchise in the three Counties for 1907–8?

A. Yes; it was $10,000 in Fresno County, $15,000 in Merced County, $5,875 in Stanislaus County. The Stanislaus County assessment being at the rate of $500 a mile.

X Q. 33. Now, did you also pay the license tax in Fresno County?

A. Yes.

X Q. 34. And how much was that?

A. $200; $50 a quarter.

X Q. 35. Do you remember what the amount of the State license is?

A. No, I do not.

1129 Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. These franchise taxes and license taxes that you have been talking about, they are all included, are they in the maintenance account in each year, on the payment of taxes?

A. Yes.

R. D. Q. 2. And those accounts that you have given, that is, $10,000 in Fresno County, $15,000 in Merced and $5,875 in Stanislaus, are the assessed valuations of the franchise, what you call your franchise?

A. Yes.

(Further hearing adjourned to Tuesday, March 2, 1909, at 2 P. M.)

1130 TUESDAY, *March* 2, 1909—2 p. m.

On motion of counsel for defendants further taking of testimony was adjourned to Wednesday, March 3, 1909, at 2 p. m.

1131 WEDNESDAY, *March* 3, 1909—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.,
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of H. H. HENDERSON, called for defendant; sworn.

By Mr. LANGHORNE:

Q. 1. Mr. Henderson, where do you reside?
A. I make my home in Berkeley.
Q. 2. What is your business or profession?
A. Civil engineering and hydraulic engineering.
Q. 3. How long have you been engaged in those professions?
A. About 19 years.
Q. 4. In what state principally?
A. In California principally.
Q. 5. Have you a- civil engineer and as hydraulic engineer had experience in measuring irrigation canals with reference to the earth work and excavation in the matter of their construction, and in examining and estimating the cost and value of the structures on the irrigation canals and in estimating the cost and value of the earthwork and excavation in such canals and in estimating and valuing the value of such canals?
A. I have.
Q. 6. Just state what experiences you have had in regard to work on canals of that character.
A. In regard to estimating the values of canal work I have laid out for the purpose of construction and estimated the work prior to the construction in a number of canals throughout the State of California, Merced County, San Joaquin County, Glenn County, Fresno County, Madera County; and also I have estimated the value of the existing structures and the earthwork in those counties.
Q. 7. Do you know anything about the complainant's canals involved in this case?
A. Yes sir, I am familiar with them
1132 Q. 8. How long have you been familiar with them?
A. Well, since 1897, the fall of 1897.
Q. 9. In what way have you been familiar with them?
A. As an engineer I measured the flow and discharge and have taken cross sections of the canal and have traveled over their canal frequently during that period, that is, from 1897 to the present date.
Q. 10. In this particular suit have you, at the instance of the Water Users Association defending this suit, done any work in regard to surveying and measuring and estimating the cost and the value of the earthwork and excavations and structures on complainant's canals?
A. Yes sir.
Q. 11. When did you do that work?
A. The work was started on the 21st of December, I think.
Q. 12. Of what year?

A. Of 1908; and prosecuted up to the present time.

Q. 13. I will ask you whether in the course of that work you examined and familiarized yourself with the cost of excavating and building in regard to the earthwork and the cost of constructing structures and the depreciation of structures if any, and the depreciation of earthwork, if any?

A. I did, sir.

Q. 14. Did you in connection with your employment in this case make an examination as to those matters, and as to the entire works and system of complainant's canals?

A. I did, with the exception of one or two branches, small branches.

Q. 15. What were those branches that you did not examine?

A. There was a branch commonly called the Orestimba branch and the branches in the Dos Palos Colony.

Q. 16. In Mr. Goodwin's report, Exhibit 1, with reference to Merced County, there appears under the head "Merced County Estimate Cost of Dos Palos Branch Canal No. 1." "Total $6453.42." I ask you, Mr. Henderson, whether you examined that in this

1133 case?

A. No. I didn't report upon that.

Q. 17. And in the same report of Mr. Goodwin under the head of "Merced County Estimate Cost of Dos Palos Branch Canal No. 2, total $13,265.23." I will ask you whether you examined and reported on that?

A. I did not.

Q. 18. And in Mr. Goodwin's said report under the head of "Merced County Estimate Cost of Dos Palos Branch Canal No. 3, total $14,977.83." Did you examine and report upon that?

A. No sir.

Q. 19. And in said report of Mr. Goodwin under the head of "Merced County Estimate Cost of Dos Palos Branch Canal No. 4, total $9,321.54." Did you estimate and report upon that?

A. No, I think not. No sir. There is just a little question there as to that. I would like to qualify my answer by looking at his station on the main Dos Palos Canal and seeing what length he makes it, as I might have taken the lower end as a part of the main, and he possibly calls that a branch. I can determine that.

Q. 20. But as at the present advised, it did not include that?

A. No.

Q. 21. Then in said report of Mr. Goodwin under the head of "Orestimba Branch Canal, total estimate cost $3,321." did you estimate and report upon that?

A. No sir.

Q. 22. Did you make up or have you made up in writing your estimates or report in regard to the cost and value as to these canals and other structures with the exceptions that I have mentioned?

A. Yes sir.

Q. 23. Have you got that with you?

A. Yes sir.

Q. 24. Will you please produce it? (Witness produces.) I will

ask you why it was that you did not examine and report upon the portions of the canals which you have excluded and did not examine?

A. I did not have sufficient time to reach it before being called as a witness.

Q. 25. Why didn't you have time to reach it?

1134 A. Owing to the continued stormy weather and the severeness of the roads.

Q. 26. Did you make any examination as to the value of the telephone line along the canal?

A. Yes sir.

Q. 27. Are those values of the telephone line included in your report?

A. Yes sir.

Mr. LANGHORNE: Defendants offer the report referred to by witness in evidence and ask that it be marked "Defendant's Exhibit R." (So marked.)

Q. 28. I will ask you, Mr. Henderson, whether or not in your opinion said report, Exhibit R, gives correctly and truly the respective amounts of excavation and the structures and the depreciation of structures and the cost of structures and the cost of excavation, and the values respectively of excavation and of structures after allowing for depreciation?

A. Yes sir.

Q. 29. And does said report, Exhibit R, truly and correctly show and represent, in your opinion, the facts as to all the matters and values that are therein set forth?

A. Yes sir.

Q. 30. Now would the matters and figures and values set forth in said report, Exhibit R, be substantially true of the subject matter in the months of May and June, 1907?

A. That was my intention, of making a full calculation based on all the conditions and the depreciation that existed at that time.

Q. 31. In those months that I have mentioned?

A. Yes sir. Of course I saw the structures during that period at intervals. You said May and June, 1907, did you not?

Q. 32. Yes. Now in regard to excavation and earthwork, there does not appear to be in your report any separate figures or estimate as to any depreciation, if any. Please state how that is.

A. Well, in calculating the earthwork on the main canal I found that in many places the canal was badly silted up on one side but the bottom had eroded to a considerable depth, and the cross sections of the canal showed that there was as much waterway below

1135 the average level of the surface as there was earth in the embankment, plus 10 per cent shrinkage in the banks. In most cases we found that in the main canal, especially on the upper part of it, that the upper section of the canal was far in excess of the amount of dirt in the embankments, and in regard to the main canal, why, I estimated the amount of dirt in the embankments and

allowed for shrinkage 10 per cent. In the outside canal I allowed for the greater part of it the amount of earth excavated according to the cut, using the average surface of ground on either side of the bank and drawing a line between the two points to determine the average surface at the center of the cut, and calculating the amount of excavation below that line; while upon the upper part, where the banks had been somewhat destroyed by stock and where there was some accumulation of silts, why, I took the banks only, and in doing that, in making the examination of the upper part of the main canal, why, it was strongly evident, both from what I saw at the present time and what I have known in the past, that the bottom of the canal had been eroded to a considerable depth, and which the cross section showed clearly, as in places where the earth had been left in the banks, and there was an average bank, measured without any borrow pits or any waste dumps so as to estimate the amount of dirt that was actually in the cut below the average surface of the cut would have been really in excess of the amount that had been excavated in the original construction of the canal.

Q. 33. What was that due to, Mr. Henderson, that deepening that you speak of?

A. In many cases it was evidently due both to the character of the soil as well as to the fact that the canal had silted up on one side, and worn more ground from one bank than from the other; that it had either naturally left the bank and had followed the other cut or it had worn on that particular bank, worn from one bank
1136 and deposited the silt on the opposite bank.

Q. 34. You say it was due in some respects to the character of the soil. What was the character of the soil?

A. Well, the soil is of a clayish nature, and more or less impregnated with alkalis, and it is very apt to slack in water, and once in solution the fine silts and clayey particles in the water will travel in the water a much greater distance than ordinary soil or large molecules.

Q. 35. Did you take a cross section of the canal at all those stations indicated in your report?

A. Yes, at all of them.

Q. 36. I would ask you what the percentage figures on the last column of your report indicate?

A. The percentage figures in the last column that is, on the right hand side of the page, are the depreciation of structures, the present depreciation of structure.

Q. 37. Now with the exception of the portion of the canal that you did not examine, did you examine all of the structures of the canal?

A. Yes sir.

Q. 38. And generally what were those?

A. Well, there were weirs and side-gates and measuring gates and general buildings that were evidently belonging to their canal, improvements, branches; some spillways, and drainage syphons entering into the canal.

Q. 39. And how about the headworks?

A. Well, they come under the head of headgates—headworks and weirs.

Q. 40. And they are all mentioned in this report, are they?

A. Yes sir.

Q. 41. On page 12 of your report after "Sidegate" there is a word "Obsolete." What do you mean by that?

A. I mean a gate that is not in use and is of no value to the system. Those frequently occur, owing to the construction of the canal. The original canal, as I understand, was of the two main canals running parallel to each other, was the right hand channel, and
1137 afterwards the left channel was constructed, using the left-hand bank of the original canal as the right-hand banks of the new canal, and all structures occurring in that bank were not removed at that time, except certain large ones that were used for by-passes, and they became obsolete and had either been filled with earth or had decayed.

Q. 42. Now on page 29 and some of the following pages you refer to certain gates as "Type A, Type B, Type C," etc. What do you mean by that?

A. Well, Type A, B, C, and so forth, are certain gates whose sizes and dimensions have been given before, and classed as a certain type; and I simply mentioned them again showing that they were of the same class of gates containing the same amount of lumber and reaching the same cost and the same depreciation, unless otherwise stated.

(By the MASTER:)

Q. 43. When you say "mentioned," before, you mean in your report?

A. Yes sir. That is, the first time that I came to one of these gates in which there were a number of such dimensions I called it a certain type.

(By Mr. LANGHORNE:)

Q. 44. In estimating the cost of excavation did you do so with reference to any particular mode of excavation?

A. Yes sir.

Q. 45. What was that?

A. Well the general procedure of constructing that canal was, I figured, in the first place the number of necessary weirs, either in the sloughs or in the canal where it was necessary to take up the grade; then with the ordinary excavator, generally known as the "Era" excavator—that is, one of the many new types—to construct the base of levees which would form the side walls of the canal; then to construct on the other side one on each side of the two mentioned levees a sufficient distance therefrom to form the outside part of the embankment, and then with a suction dredge, one so designed as to drag itself out and around the weirs, to remove the center core, and pump it into the places between the levees and following the plant back. Of course, the levees would have to be provided with drainage
1138 ways in order to drain the water back into the canal, at such distances down the canal as to drop the silt or heavy matter.

In this case it would want to be taken there in as large a bulk as possible, so that its settlement would take place as early as possible. The water would be taken from the San Joaquin River just as it is now, following the dredge.

Q. 46. Is there anything in the character of soil through which these canals run which would render it in any sense difficult to dig the canal by machinery?

A. Not necessarily. There are in some places to be found soil which would be necessary to use a scraper with.

Q. 47. Are these methods of excavating by dredges, as you have referred to, more or less expensive than using plows and scrapers?

A. They are less, materially so; that is, upon the experience in a number of large contracts that have been taken.

Q. 48. I will ask you, whether or not canals in soil similar to this have been excavated by means of machinery instead of by plows and scrapers?

A. Yes sir. In soil practically the same the method I have given is being used and the work is being carried on at a number of places today, that are similar in many respects to the ground through which the main part of this canal passes, with the exception of this piece of structure that I have mentioned, instead of using an Era Excavator we have the Clam Shell Dredger, which is dragged along the ground by its own power and then backed away from the work. They first constructed the banks of the ditch, the outside and the inside part of each bank, with this dredge, and are now preparing to put their suction dredge into the cut and fill the space between the two shells or sides of the bank with the material that they excavate with the Suction Dredge.

Q. 49. Then as I understand your report, with the exception of the parts that you did not examine and report upon as you have stated, that in your opinion, considering the methods and
1139 cost of construction as you have stated, complainant's canals could have been constructed at a figure deducting from which the depreciation, according to your report, would make their total value in May and June, 1907, $415,405.40?

A. Yes sir. That is, that sum plus depreciation would be my estimated cost of construction of the canal.

Q. 50. And you have given that depreciation in this report?

A. Yes sir.

Q. 51. Now have you with you any drawings showing the profiles of portions of this canal, of the cross sections you took, and illustrating what you have said about the erosion of this canal and the silting?

A. Yes sir.

Q. 52. Do you know the canal known as the Helm Canal?

A. Yes.

Q. 53. Have you seen and examined an exhibit in this case known as Complainant's Exhibit 27, made by Mr. Hammett on behalf of complainant, purporting to be the water bill against Miller & Lux for the year ending June 30, 1908?

A. I have examined a copy of it.

Q. 54. On page 8 of said exhibit it appears for the year ending June 30, 1908, that the waters carried by the complainant's canal company for Miller & Lux, for which a carrying charge is made in said exhibit, instead of acreage charge that the proportion so diverted by the headworks of the complainant and carried by its canals was 15.4 per cent of the total amount of water carried by the complainant's canals; and accepting that proportion, what in your opinion would have been the proper method of estimating the charge to have been made against Miller & Lux for that year for the diverting by complainant by its headworks, and the carrying by complainant in its canals of that proportion of Miller & Lux's water?

Mr. TREADWELL: We object on the ground that the question calls for the opinion and conclusion of the witness without a statement of any facts and without any showing that he knows the
1140 facts upon which he can base an opinion. That is not a subject of expert testimony, or a subject upon which anybody could give an opinion. It is a question to be determined by the Court upon the facts as they are now in evidence, or as they are now to be adduced by the evidence.

Mr. LANGHORNE: Sufficient facts are in evidence. This witness has made an examination of the value of this property, therefore he is qualified to give his opinon as to what would be a proper charge, based upon that valuation.

The MASTER: I overrule the objection.

A. My opinion of the method that should be used in making a charge would be taking Mr. Hammett's 15.4 per cent which purports to be the per cent of the total which was consumed by Miller & Lux, taking 15.4 of the cost of the headworks and such canal or canals through which the water was carried and charge a rate of 13 per cent interest on that investment.

(By Mr. LANGHORNE:)

Q. 55. Per year?

A. Per year. The division of that 13 per cent I figure this way: while 6 per cent I believe should be a net revenue on the part of the diversion works and the distributing works that belong to the Canal Company, and 7 per cent of the 15 per cent would go to Maintenance, as I conceive about 7 per cent to be necessary to the maintenance of the system.

Q. 56. That is, 6 per cent per year would be the proper annual interest on the proportion of the value of the headworks and of the value of the canals that are used in carrying Miller & Lux's excess water, so-called?

A. Yes sir. That excess, as I understand it, is 15.4 per cent of the water carried by the canal.

Q. 57. Now Mr. Henderson, there is I suppose, in this canal a certain loss by seepage, is there not, of water?

A. Yes sir.

Q. 58. I ask you whether, in your opinion, any sum of money should be added to the value of these canals on account of or
1141 as representing in any way the loss of any water by seepage?

Mr. TREADWELL: We object on the ground that the question calls for a conclusion of the witness.

The MASTER: I overrule the objection.

A. If the valuation of the canal should be increased in regard to its cost or in regard to the value by the silting up of the canal to the extent of preventing further percolation, I should not think so, inasmuch as in the design of the canal it is one of the elements necessary to have the canal sufficient to allow for seepage and evaporation in order to irrigate a certain area; and in the construction of the canal to irrigate a given number of acres due consideration is given to that part of it; and therefore it follows that the original cost of the canal covered the feature of seepage, and that afterwards if the seepage is reduced, it would simply give a greater earning capacity of the canal on the same investment.

Mr. TREADWELL: Well, the opinion of the witness is very entertaining, and we move to strike it out, and also the answer to the last question, on the same ground as the objection.

The MASTER: I deny the motion for the reasons stated.

(By Mr. LANGHORNE:)

Q. 59. You say that you are familiar with this canal and have been for a number of years?

A. Yes sir.

Q. 60. Do you know where the Lone Willow Slough is with reference to this canal?

A. Yes sir. I am familiar with the entire length of it.

Q. 61. Do you know where the so-called Stevinson Canal is?

A. Yes sir, the Eastside Canal.

Q. 62. And about how far is it from the head of the Poso Ditch or Canal of the complainant's system to the Columbia Canal?

A. I should think about 9 miles from the head of the Poso Canal to the head of the Columbia Ditch.

Q. 63. And how far is it from the head of complainant's canal to the head of the Eastside Canal?

A. By direct course, you mean?

1142 Q. 64. Yes.

Mr. TREADWELL: Down the river means by the course of the river?

Mr. LANGHORNE: Yes, down the river means by the course of the river.

A. Off handed I should say about 40 miles. I could figure it out and give you the exact data.

Q. 65. You know where the point of measurement of complainant's canal is below the headgate, do you not?

A. Yes sir, on the main canal.

Q. 66. About how far is it below the headgate?

A. Well, we have a record of it. I think it is in the neighborhood of 6,000 feet.

Q. 67. Do you think that one man could efficiently and accurately take water measurements during the whole season of the water

flowing from complainant's canal into the Poso Canal and into the complainant's canal and into the Columbia Canal and into the Eastside Canal?

A. Well, that would greatly depend upon the situation. Of course, the general method of taking the measurements is to establish a gauge in the stream or canal as the case may be, and someone observes this gauge daily and perhaps the duty of the hydrographer is simply to measure the actual flow at the different gauge heights from which he computes his discharge table. And as long as this section of the canal and the friction in the canal or in the gates which might increase or diminish the grade of the canal were not affected, why, this table would be reasonably accurate. In that case, a man could cover the ground, I should think, and give reasonably accurate results on all this. But on the other hand, if they relied upon his measurements taken one day and without the use of a gauge, and then subsequently, say four or five days subsequent to that date, again make a meter measurement of the canal and
1143 interpolate all points in between, there would be a great possibility of error, and I would not consider it a sufficiently practicable method.

Q. 68. It has been testified here by Mr. Hammett, the engineer of complainant, that approximately the capacity of complainant's canal at the first point of measurement, which is 6134 feet below the headgate, is about 1300 cubic feet per second. I will ask you how many acres of land, in your opinion, can be irrigated annually with that amount of water?

A. With 1300 cubic feet per second?

Q. 69. Yes.

A. That is, distributing over some specified section?

Q. 70. Distributed over the section now covered by complainant's canals.

Mr. TREADWELL: We object on the ground that the witness has not been shown to be sufficiently familiar with the amount of water, has not testified that he knows anything about the amount of water required to irrigate that land. If he does know, all right. I submit that no foundation has been laid for it. I don't know whether the witness knows or not. If he does, I am willing for him to testify.

(By Mr. LANGHORNE:)

Q. 71. Have you any experience in estimating what is known as the duty, that is, how many acres a cubic foot of water per second can irrigate per annum?

A. Yes sir. Of course the duty of water to a great extent depends upon the soil and the character of the sub-soil. In Fresno County the average duty of water is about 200 acres a cubic foot, and at that rate 1300 cubic feet would irrigate 260,000 acres.

Q. 72. That is, per year?

A. Yes sir; that is, that 200 feet is the amount that has been reported from the Fresno Canal Company for a recent irrigation. There was a time when the irrigation was first brought into use

that the efficiency of a cubic foot of water ran down as low
1144 as—well, as 80 or 90 acres; but owing to the character of the soil the water table has risen to such a point that it requires very little water to suffice for the ordinary crop.

Q. 73. Well now, taking the lands that are irrigated and susceptible of being irrigated by complainant's canals in the Counties of Fresno, Merced, and Stanislaus, how many acres in your opinion could be irrigated per year from that 1300 cubic feet?

A. Well, I should say that it would be from 160 to 200 acres per cubic feet.

Q. 74. That is, per year?

A. Per year.

(By the MASTER:)

Q. 75. For one crop or two?

A. Well, for the average, for the general use of it; for various crops as an average, generalizing; for alfalfa, and all crops that are grown.

(By Mr. LANGHORNE:)

Q. 76. Coming back again to your report, Exhibit R, Mr. Henderson, which does not show any separate figures as to depreciation of earthwork or excavation, do I understand you correctly that whatever depreciation on that ground you found was allowed for in the figures you had given as to the values of the excavation or earthwork?

A. Yes sir. The amount of excavation plus 10 per cent for shrinkage, as I stated before. In some of the banks where there was evidence of shrinkage I allowed 10 per cent as the entire quantity of the bank for shrinkage.

Q. 77. I ask you why it was in your report that you have indicated the value of the telephone line at one-half of the cost less depreciation.

A. Why, it is jointly used by Miller & Lux and the Canal Company. Miller & Lux's branches are connected with the line.

Q. 78. That was the reason you took it in that way?

A. That was my reason for doing so.

Q. 79. This reduction of yours does not include anything in regard to the value of the land or right of way used by the
1145 canal.

A. No sir.

(Further hearing adjourned to Thursday, March 4, 1909, at 10 a. m.)

1146 THURSDAY, *March* 4, 1909—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of H. H. HENDERSON, resumed.

By Mr. LANGHORNE:

Q. 80. Mr. Henderson, are you familiar with the country irrigated by the canal system of the complainant?

A. Yes sir.

Q. 81. Is there now any canal system or irrigation works other than that belonging to the complainant from which the lands now irrigated by complainant's system, with the exception, possibly, of the portion of the riparian lands of Miller & Lux along the San Joaquin River, that can furnish water for irrigation to the lands which are now being irrigated from complainant's system?

A. No sir, none other than possibly those adjacent to the San Joaquin River.

Q. 82. My question was as to the present time. Is there any system?

A. No; with the same exception that you made of those lands situated on the border of the San Joaquin River, which are riparian to the river. They might be irrigated directly from the river. Other than those, there is no method.

Q. 83. Are you familiar with the water supply of Fresno Slough and the San Joaquin River at the headgates of this canal?

A. Yes sir.

Q. 84. And this system—that is, the complainant's system of canals—is kept up, and while it is kept up as at present, would it be possible for any other organization or concern to obtain any water from any source—well, I will say from the San Joaquin
1147 River or the Fresno Slough or from both combined—with which to irrigate the lands that are now irrigated by the complainant's system?

A. No, I think not. The only time that they could be irrigated would be during the flood period, and only then, I suppose, if the riparians along the river did not object. There would be sufficient water during the flood period to irrigate.

Q. 85. It would have to be stored, would it not?

A. Yes, during the latter part of the summer seasons it would have to be stored, but there would be sufficient during the spring freshets, during the June rise of the river.

Q. 86. But under the present conditions there the complainant has a monopoly of the irrigation of these lands that are now being irrigated by this system?

Mr. TREADWELL: We object to that on the ground that it calls for a conclusion of the witness.

Mr. LANGHORNE: I will withdraw the question. That is all.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Mr. Henderson, taking up in the first place the amount of excavation in the various canals of complainant, in determining the amount or the size of a depression such as a canal or a water way of any kind, whether natural or artificial, the best way to get at that would be to make a cross section of the depression itself, would it not?

A. Yes sir.

X Q. 2. And in measuring the excavation another way by which it could be got at to a certain extent, would be to measure the amount of earth that had actually been removed from the excavation—that would be another method, would it?

A. Well, if it could be reached it would be, yes.

X Q. 3. That is, if you could reach and determine the exact amount that had been removed you could more or less ac-
1148 curately reach the amount that was actually excavated to make the depression?

A. Yes sir.

X Q. 4. Now which of those two methods did you follow in determining the excavation of these canals?

A. I used both of them.

X Q. 5. Well how could you use them both; where did you use one, and where did you use the other?

A. I used one where the material that was outside, which represented the amount of earth excavated, was available, and where the exact amount of dirt had been excavated; for instance, a slough where a certain amount of dirt had been removed from the slough and piled on the banks to make a cross section of the slough, to take the measurement of that would be erroneous, because if you calculate the amount of dirt removed from the slough, using the slough as a cross section, it would be an error because the result would show the amount of earth that was in the slough which was removed, by the fact of the slough being there, and which was not artificially removed.

X Q. 6. As I understand you, where you were measuring the actual amount of excavation in a slough such as China Slough which was under a partial excavation, in order to determine the amount of the excavation you based your figures upon the amount of dirt thrown up on the banks?

A. Yes sir.

X Q. 7. Now in cases other than that, on what did you base the amount of your excavation, that is, in cases other than the natural sloughs, in cases where the canals were all artificial?

A. Upon the quantity of earth in its banks; also where there was a case of a fill and you took the amount of [illegible] in the fill, the amount of excavation which lay in the cut below the average height of the soil would not be fair, inasmuch as there would be less dirt, apparently, anywhere, than was excavated necessarily to build the
1149 banks. The reason of that is, that the dirt was borrowed from some point to construct the banks.

X Q. 8. And in that case you did not include the entire amount of earth in the bank to make the fill?

A. In that case we used sections of both embankments in the cut and to that we added 10 per cent for shrinkage.

X Q. 9. But taking the canals as a general rule, irrespective of special conditions of cuts, is your report and estimate of the amount of excavation based upon cross sections of the depression which you found there, or as a general thing, upon the amount of earth found in the bank?

A. Well, it varies. Whenever we found that the canal had been constructed in low places, wherever the canal required dirt to be borrowed, I used the banks, as there would more earth appear in the banks than in the cut, and the banks should be used in order to find out the amount of earth removed. On the other hand, where the cut was greater than the amount of dirt in the banks, and I had knowledge of the cut either washing out or the canal filling, or a slough where dirt had not been removed, I used the banks in that case. But wherever the canal was through the ordinary section, the cut showed the amount of earth excavated, I used the cut. No general rule could be laid down in an ordinary canal in determining the amount of dirt removed by simply taking the cut. If the canal was partly natural and partly artificial, that which was artificial was credited as so much excavated. While on the other hand, if it was going through a country that had to be filled, why then I would not allow them the amount that I would otherwise. So that I had to calculate the amount of dirt that was borrowed; and that is the only way by which you can really get at it, in such cases.

X Q. 10. Irrespective of the borrowing of any dirt to make a fill, if you follow the work right up, go right up behind it and measure the excavation, the cross section of the depression
1150 below the natural surface of the earth, will not that show absolutely the actual amount of excavation?

A. If it has not been eroded out or silted up at all.

X Q. 11. Now, my question is: If you follow right up right behind the work after it is done and before the canal has been used in any way, irrespective of putting the canal through any sloughs or anything of that kind, and you measure the actual depression below the natural surface of the earth, will not that show the actual amount of the excavation?

A. Yes sir.

X Q. 12. And is not that the best way to get at it?

A. Well, if you have got a canal just constructed and it has not had a chance to fill up through any means, why that is the proper way, certainly.

X Q. 13. And when you got along there you found these banks, some of them, had been built as long as 40 years, had they not?

A. Yes sir, I think so; in the neighborhood of that.

X Q. 14. Some of those banks had been standing there for as long as 40 years, probably longer?

A. I understand that they have.

X Q. 15. And over those banks there is a wagon road which has been traveled up and down by horses and wagons for years and years, as far as you know? That is a fact, is it not?

A. Yes. I know that they have been traveled for a great many years.

X Q. 16. Those banks have been also subject to the action of the elements, the water and the general overflowed condition of that country in time of high water?

A. Well some of them have, but not speaking of the canals generally, you would not say that the canal banks themselves had been overflowed.

X Q. 17. Oh, no, I will separate the question. They have been subject of course, as you know, to the ordinary effect of the elements, the rains?

A. Of course, yes.

X Q. 18. And in some cases by reason of irrigation from
1151 one canal to the other, water naturally stands against those banks more or less, in the irrigation season?

A. In the Parallel Canal, yes.

X Q. 19. And there are also some parts of it that might be said to overflow to a certain extent?

A. A very little; some at the upper end.

X Q. 20. And much of those banks are also subject to cattle wandering over them at will, and drinking out of the canal?

A. Yes sir.

X Q. 21. And that has been true for a great many years, as far as you know?

A. Yes sir.

X Q. 22. And still you base a great deal of your report as to the capacity of those canals and the amount of excavation in them upon the amount of earth you found on the banks, allowing simply 10 per cent for shrinkage, in preference to an actual cross section of the depression below the natural surface of the earth—is not that the fact?

A. With reference to my judgment, wherever my judgment told me that that should be the case, I did it. Of course, in considering the banks there are a great many things to consider. Now taking a canal as a whole, as is this one we are discussing, frequently the amount of dirt and silt that is removed from a canal in the way of repairs or cleaning the canal, which is a part of the cost of operation, why, that dirt is placed upon the banks and a person in some cases would be measuring and crediting the company with dirt that had been removed on Expense Account, as well as perhaps to counteract that which might be worn away; So I take it that if the canal is cleaned every few years the bank would be increased in size by the amount of silt that forms in the canal. So that you might, on the other hand, give the canal company far the advantage of the situation by measuring and crediting them with not only the original excavation, but the silting that was excavated.

1152 X Q. 23. As a matter of fact now, have you got an estimate, did you make an estimate or can you give an accurate

estimate of the actual amount of excavation of those canals as shown by the cross sections of them as they stood at the time you made the examination, and irrespective of the banks?

A. Well, I could not do it here but I could do it at the time that we examined it. Of course we didn't—Now for instance we would come to a section of canal—This is in the majority of the cases of the parallel canals; it applies to a majority of the cases in the parallel canals; there is a great deal of silt and berm formed along one bank. Now in order to determine the depth of the silt it would be a difficult thing and would require a great deal of time; so our cross section would show the depth of the water and the top of this silt. Now to arrive at the actual earth that was originally removed from that cut you would have to go down and dig down through this silt. In some cases it might be two or three feet, two feet; and get to the bottom; so that any way that you might take it, it is evident that my calculation of the cut—In some places it would show more silt; there would be silt that would not be included, while the cross section didn't go to the bottom of the canal because we couldn't get to the bottom of the canal.

X Q. 24. Now, Mr. Henderson, I am taking just the physical condition as you found it there. I don't care whether the canal has silted up since it was excavated or whether it has washed out or eroded, as you say it has done. I am taking the physical condition which you found there in the way of excavation. And by physical condition I mean the amount of depression in the water of the canal. Now I say, have you got any figures here that you can give this court that will show the actual amount of that excavation by simply making a cross section of that excavation or depression with reference to the ordinary natural surface of the earth?

1153 A. I have them but I have not got them here, all of them.

X Q. 25. Well, I want the others. That is what I want. Where are your notes?

A. They are at the Stockton office.

X Q. 26. You came down here to testify in this case?

A. Yes, but we didn't use them. They are not in the report.

X Q. 27. You didn't use them at all? That is the fact, isn't it?

A. Not in the report. That was as I said, in places I used the cut and in places I used the banks, but I studied the situation of each section and found out which in my judgment was the proper one to use. Now I didn't bring that data, but it is available and I will produce it as soon as it can be got. I think it is all worked up and in such shape as to be ready for use. But I didn't suppose it would be needed so I didn't bring it.

X Q. 28. You were sent down there to find out the actual conditions of affairs, were you not?

A. The actual conditions of affairs in this way: My instructions were to examine the dirt that was excavated in the original construction of the canal.

X Q. 29. If you found down there a canal which was clearly an artificial canal, and by taking a cross section of that earth and judg-

ing by the natural surface of the earth, which you determined, as you say you did, and by doing that you found the number of cubic yards shown to be in that excavation, still you have not reported that to this court at all, unless it was your belief that that was the actual amount of excavation by artificial means and was not in any way affected by the eroding or washing of the canal or by the use of it during these years?

A. That was my instructions, so as to get the amount of dirt removed in the artificial cut, in the construction; not that part that was sloughs, not that part that was erosion, and I arrived at that in the most practical manner that I could.

X Q. 30. Now, did you make then a rough estimate on the figures that you had, which show the actual amount of excava-
1154 tion in those canals, eliminating your opinion as to whether that was caused by the washing of the canal or by the actual work of the scraper?

A. I think I worked out everything in the cut between the banks in the main and upper canal from the lower end of the China Slough clear down to a point below Los Banos. I think I have those all worked out, and I think I have comparative tables, in making my examination, but perhaps not of the entire distance. I would have to look at the results of my papers to see just what I did work out; although I have the notes sufficiently worked out in my comparative tables in order to form an opinion as to what had been removed, what part of it was silt, although I did not calculate separately the silt in the individual cases.

X Q. 31. Do you know whether the excavation as shown in the method that I have stated—that is, the amount of the excavation in these artificial channels and below the natural surface of the earth, whether that is greater or less than the amount that you have reported here, basing your opinion on the method that you used?

A. Well, taking it below the natural soil, below China slough, there are places to the best of my information—although the exact data would be hardly obtainable—where the cut was less than the banks, and in some places the banks were less than the cuts. But in the upper part of the main canal and down in that section that I have personal knowledge of, the canal being eroded to a deeper depth, from having observed the canal for years, being in those cases lower than the banks; also considering the amount of silt there was in there. Where there were 10 or 12 or 15 years' deposit of silt, the berm and the silt would naturally prevent any calculation of the cut.

X Q. 32. I am not trying to get at the amount that was actually cut. I am trying to get at the condition of these canals at the present time. That was what of course, would govern this
1155 case, and you were governed by that, were you not? In other words, if you had gone down there and you had found those canals filled up with silt half-way above the original cut, although it was your opinion that they had been filled up by excavation, you would have reported it as you found it, would you not?

A. Even so, I would have reported it as I found the cut of the canal. What I term now as the cut is that part that is dug out below the natural surface, which has been silted up to a level with the natural surface of the soil. I would have reported the amount of earth that I found in those embankments to have been actually taken out, excavated, and the canal would then have the capacity of carrying water, because the water in the canal is invariably carried, under ordinary circumstances, some distance above the average surface of the ground. A great many canals of course, are confined within the cut below the surface of the ground, but in a majority of the cases they run above the ground. In such cases the canal would not have the same value as it would to carry water even on top of this silt, so that they would have probably used devices as to the best way of finding out the amount of earth that had been excavated from that cut.

X Q. 33. Now you were there for the purpose of finding the value of those canals at the present time, that is, for June, 1907,—that is what you were there for, isn't it?

A. Well, that was true in regard to the structures——

X Q. 34. In regard to everything. What is the difference between the structures and the canal itself—what distinction do you make in regard to that?

A. I make this distinction, that natural soils and such things as were moved I don't include in the embankment.

X Q. 35. I understand you did not. We are talking about the canals after the excavation. I say, you went down there to find an approximation of the banks of that canal that were ex-
1156 cavated, as you determined, to a certain depth, with certain arrangements of cross sections. You determined that from the earth in the banks. You also found when you were making your cross sections of the canal itself that you had to make an estimate of the deposit of material there, so you would deduct that deposit also from the amount of excavation for the purpose of getting at the actual depth?

A. Well, that would depend; not always.

X Q. 36. Well, if you read my question you will see that I am stating a case where the cross section had been destroyed to the extent of one-half by the deposit of silt. Now, would you not deduct that in order to determine the value of that canal?

A. No, I don't think so entirely. If the bank had been constructed sufficient to carry the ordinary water that would flow in the average cross section of the canal, I don't know as I would, if I understand your question.

X Q. 37. Now what I asked you when we went off on that, was the relative amounts as you remember them, of the excavation as shown by the present condition of those canals below the natural surface of the ground and the amount which you have figured by using the methods that you have? Have you got that even in a rough estimate at the present time?

A. Not here, no. I have it at the office.

X Q. 38. But you know in the aggregate about how much it amounted to?

A. No, I do not. I would not want to make a guess. The data is available, and I would rather get it and give it to you.

X Q. 39. Offhand, you can't say whether it was a third less or a quarter less or a half less?

A. It is only a guess, and I don't wish to guess as long as I have the exact data.

X Q. 40. We can't make much progress unless the facts can be brought out.

A. I think the matter is too complicated to guess at.

X Q. 41. I understand that, but I want your notes here.

1157 (By the MASTER:)

X Q. 42. Where are your notes?

A. In the Stockton office.

(By Mr. TREADWELL:)

X Q. 43. Have you got anything that shows the cases where you used the banks as the criterion by which to determine the amount of the excavation and the cases where, if at all, you used the actual carrying capacity below the natural surface of the excavation?

A. Those notes that I have just spoken of would show the results of that all the way through.

X Q. 44. Now as I understand your testimony, in answer to Mr. Langhorne you stated that while you found that the canal would, by the action of the water become eroded and wash on one side of the canal and would become filled on the other, that taking the canals throughout you found no evidence of any actual deposit of silt in the canals?

A. Yes. There were many places where there were deposits of silt.

X Q. 45. Was not that your testimony?

A. No sir; not the way that I understand you to interpret it.

X Q. 46. What I mean is this: taking the canal on the average and taking the cases where it had washed out and the cases where it had filled, if at all, that on the average the canal was of as great a carrying capacity now as it was at the time it was excavated—was not that your testimony?

A. No, I would not say that on an average throughout the section. While it might be true in a great deal of the canal it is not true of the whole canal. The lower part of the system is in pretty fair shape, while some of the upper part of the main canal is badly filled and some of the outside canal, some of its banks are torn down somewhat, and they are silted. And on an average I don't think that that statement should be made.

X Q. 47. What did you testify to on that subject yesterday?

A. I don't recollect just how that question was asked,
1158 whether it was asked in that light.

X Q. 48. Didn't you testify yesterday that you found that

there were some cases where the canal had deposited mud on one side? You testified to that, didn't you?

A. Yes sir.

X Q. 49. And you testified that there were places where the canal had clearly eroded or washed, maybe on one side or both?

A. Yes sir.

X Q. 50. You testified to that?

A. Yes sir.

X Q. 51. You testified that outside of that you were unable to find that there had been any decrease in the cross sections of the canal, taking it as a whole, but that it was much greater now than when originally built?

A. You mean considering the entire length of the canal?

X Q. 52. Yes sir.

A. Well, I would not say. I don't pretend to say. I didn't pretend to say that the most part of the canal had been eroded. I was speaking about the parallel canals. There are places, I don't recollect the details of it at the present time, below Los Banos, that had eroded. In the parallel canals there are a great many places where the bottom of the canal has eroded, and places where it has silted up very badly. And there are also places where the entire canal has silted up some both sides, both on the sides and bottom. But the heaviest part of the silting or the berms seems to be in the upper half of the canal system.

X Q. 53. You testified yesterday that you had made a calculation based on the method that you say you used, which showed to you the amount of excavation in these canals originally. You made that report to the court, didn't you?

A. Yes.

X Q. 54. That is correct, isn't it?

A. Well, not in the full sense of the word. There is some depreciation allowed in the earthwork. Now in case that the bank had been badly destroyed and was not available, of course the section might not be considered as good. There are parts of the outside canal in the upper section where the stock had reduced the banks ma-
1159 terially, and in that case I think that I made some allowance.

X Q. 55. I am not coming to the method now by which you do it. I am asking you for your result. You have result here which you have referred to, which you testified was brought about by using the method which you did use, by which you determined to your satisfaction the amount of actual excavations in these canals. That is correct isn't it, without any limitation or without any addition or without any restriction?

A. No I don't think that is correct.

X Q. 56. Then you have not made any report to this court, as I understand it, even giving your opinion as to what you honestly believe the amount of actual excavation was in these canals originally?

A. With the exception of light wearing that might have occurred in some places.

X Q. 57. Now what do you mean by that?

A. Well in case where the——

X Q. 58. Does not that show in your conclusions, if there was any light wearing, what it is that means?

A. That would be the result of the earth work there, the earth work of the system. Now on the outside canal, for instance, I found an embankment which I had known a few years ago to have been 5 feet in width on the top, and which I found now to be less. I think that my results will show that there was a deduction made for that wearing away by stock or by wave action.

X Q. 59. I am not asking you what deductions you made or what methods you used or how you arrived at the result. I am simply asking you, did you arrive at the result and did you report it here and did you testify to it as to the amount in your opinion of the actual excavation in those canals?

A. Well practically so although it is a little below, what might have been originally excavated under those conditions.

X Q. 60. That is, you think your report then is not necessarily correct, as I understand your statement?

A. I didn't say anything of the kind, as to its not being correct.

X Q. 61. I mean by "correct," it does not necessarily show 1160 the absolute amount of excavation?

A. Not the absolute, but very close to it.

X Q. 62. What I am getting at is in your best judgment you have reported here correctly I suppose. That is correct isn't it?

A. Certainly.

X Q. 63. And you have reported here what you believe to have been the amount excavated in those canals as I understand it? If you have not of course I want to know it. As I understand, you have.

A. That is not the intention of the report, that is, to show the original excavation with the exception of certain parts that have been worn away. Of course there is no such thing as arriving definitely at the original excavation. It might have been worn and it might have been increased. But it is honest at those points as honest as could be reached.

X Q. 64. That is what I am getting at. Now then didn't you testify that after getting the actual amount of depression—using that word in place of "excavation" which may be misunderstood—that the actual amount of depression of those canals is greater than the amount which you reported here as the amount of excavation?

A. Yes of course because part of the canals are silted up and there are parts of the canals where it has been eroded out.

X Q. 65. But eliminating the question of the natural silting that is true is it not?

A. As to every part of the system?

X Q. 66. No but in the aggregate isn't it true? Didn't you so testify that it was true?

A. Well I would not say entirely in the aggregate. Eliminating the silts. I would not say, though. That could be determined easily, though, but I would not say it offhanded.

X Q. 67. You told your counsel yesterday that you had not

deducted anything from its value by reason of the fact that there had been any later silting of the canal, that you had not deducted anything for the silting.

Mr. LANGHORNE: We object to that. He didn't state so.

1161 (By Mr. TREADWELL:)

X Q. 68. I will withdraw it and put ti in another way. I say, Mr. Henderson, after you had determined to your satisfaction and by methods which you believed to be proper and right the amount of original excavation in that canal as shown by the difference that you found there, that you did not take anything from that amount by reason of the fact that it had depreciated by reason of silting since that time? That is correct, is it not?

A. Well I didn't state it in just the way you put it. If I understand the way you mean to ask the question, I didn't state it that way. Now when I came to a place where the canal was silted up on one side and it was impossible to get the cross section of the canal I took the earth that was in the embankment on one bank or two banks or three banks and I included it and I added 10 per cent for shrinkage. Of course if there was evidence, strong evidence of the canal having been excavated within the last few years, if it had been cleaned and dumped on top of these banks, in cases where I knew that there was a question of that kind, I avoided such conditions if possible and tried to get at as near as possible the original bank and the right conditions. Of course there were some cases where the banks were partially destroyed, so that the results probably would not show in cubic feet of silt depression.

X Q. 69. What I am getting at is this, that you determined, as I understand it the amount of excavation. Now do you mean that wherever you found that by using the device of using the amount of earth in the bank—now do you mean that if you came to a conclusion that there had been some cleaning there and that the earth from some of those banks was due partially to the cleaning of the canal and the removing of the silt that you then deducted that from your estimate as to the capacity and the amount of the excavation?

A. No no I avoided that.

1162 X Q. 70. How did you avoid that?

A. By getting a place where it was evident that the conditions were as near as possible normal.

X Q. 71. Now then as I understand it you have not attempted to report to this court the actual condition of those canals as you found them, that is, the actual amount of the depression? You have not pretended to do that? You don't pretend that your report shows that?

A. The actual yardage in the depression?

X Q. 72. Yes.

A. No sir.

X Q. 73. And you don't claim that your report shows the amount in any way accurately of any deposit which may have been made in the canal since its excavation? That is true is it not?

A. That is true.

X Q. 74. You have stated that you made certain cross sections of this canal. Did you make them in a graphic form?

A. Yes.

X Q. 75. That is, by drawings?

A. Yes sir.

X Q. 76. And you stated that you had those?

A. I had most of them. There are some of them that I have not. I don't know just how many but I have got pretty near all of them. I have them to Mr. Hammett yesterday.

X Q. 77. Practically all of them?

A. The greater part of them.

X Q. 78. How many more do you think you have?

A. I could not say. There were some that we didn't use because there was no object in using them and we didn't take the time to use them. For example, we found a section of the canal for illustration for 2,000 feet an excavation of say 100 square feet of surface, why we perhaps dropped out nearly all of the sections in the middle, if the section was uniform, as is the case in some parts of the canal; why then it might have been dropped. But in the majority of cases I have the cross sections.

1163 X Q. 79. From those cross sections that you have not got the same results should be obtained that were obtained by use of the cross sections which you had?

A. Well I think practically so.

X Q. 80. Now you say that you have found in a good many places that the banks were so worn by cattle and other causes of that kind that you could not use them at all as any safe criterion? Is that true?

A. Well that is true of the outside canal, the upper part of it. I may not have stated it just exactly as you have stated it, but I found the banks of the upper part of the outside canal to be badly worn from what their original condition was. Of course I had been familiar with those canals for a number of years.

X Q. 81. And therefore you recognized that by the lapse of time, that a bank may become so that it is absolutely an unsafe criterion to use in determining the capacity or the amount of the original excavation?

A. That is true, with due consideration to be given to the character of the soil and the treatment of the bank.

X Q. 82. And so far as determining the actual area of a depression, there is no fair comparison between making an accurate cross section of the depression and the estimate of that depression by using the bank? Is not that true?

A. No that is not true.

X Q. 83. You think that one method is just as good as the other?

A. I don't think that either method—you are speaking as though either method should be a standard for all cases, as I understood in the first place.

X Q. 84. What I am asking you, Mr. Henderson, is this: is not the amount of excavation, not how it was excavated or whether it

was excavated by a whirlwind or by flood or by scraper or by anything else; but if you have got a depression and you want to determine the yardage in that depression, I say, the safest
1164 method of doing that is to measure it at cross sections rather than to cross section a bank that may have been made anywhere from one to forty years before. There is no question about that, is there in your mind?

A. If you want to get the area of a cross section there is no way to get the area except to measure the cross section if it is just the depression that you are considering.

X Q. 85. That is what I say; but so far as getting the depression is concerned, of these canals as you found them there, the method that you used you don't even pretend does show the actual depression of those canals or the yardage in them? That is correct is it not?

A. No.

X Q. 86. All that you claim is——

A. I have measured these canals. I have measured them and also the banks. But if you refer to my report, if you have reference to the yardage of my report, in all cases it does not belong to the bank and in all cases it does not belong to the depression.

X Q. 87. You used such equitable method as you thought was the most applicable, considering the condition of the bank, the uses that it had been put to and your own knowledge as to the cleaning or silting or eroding or things of that kind?

A. And as to the general condition of the cut too.

X Q. 88. Of course you are familiar with the building of canals and know the ordinary method by which it is done?

A. Yes sir.

X Q. 89. You know that as a matter of fact most any canal is constructed with a substantially uniform width from point to point do you not? It is a custom is it not?

A. Well no. Of course you are speaking not in a technical way. What do you mean by "from point to point?" What distance are those points apart?

X Q. 90. Of course a canal may be built in sections of different widths. A canal will not run for 20 feet wide for 10 miles and then 5 feet wide for 5 miles and then 40 feet wide for 5 more
1165 miles. A thing of that kind, of course, is unheard of.

A. Of course you have distorted the general practice considerably. A canal might be forty feet and then you would have a section of country where the grade would be increased and you would increase the cross section of the canal. The grade of the country and the grade of the canal through which it was constructed would have to correspond. The grade of the country and the grade of the canal and the amount of water grade would determine the condition. The width of the canal is simply the result of these three conditions.

X Q. 91. What I mean is that the width and the depth of the canals—these particular canals—were obviously built uniformly for certain distances, which you could easily determine. That is true, is it not?

A. Well, yes. I imagined that there was some method of uniformity in the first place.

X Q. 92. They showed that they had been built of uniform width?

A. Yes, taking for instance the depth of the top of the bank, the distance between the top of the banks would be for a long section quite uniform in width, and then perhaps it would change to a substantial uniformity, and that uniformity would be preserved until there was a material change, and such uniformity would be practically true throughout the canal.

X Q. 93. Now then in regard to the grade of the canal. Those canals are generally built, all those canals are built along of course, following the contour of the country as near as possible so as to get a fair average grade so as to always have a grade and still not have too much of a grade. That is true, is it not?

A. That is true in the general method of constructing a canal grade.

X Q. 94. And that showed on this canal, that it was evidently built by engineers so as to get a uniform grade or a grade as nearly uniform as possible, did it not?

1166 A. Of course, whether it is of uniform grade depends entirely upon the conditions of the country. Of course in this case, throughout the outside canal generally, speaking from observation, I think that the grade is nearly uniform; while that of the main canal is not always uniform. There are places at different points of the canal where it was necessary to remove part of the material. An engineer will design a canal according to the contour of the country that he has to go through. He may run miles, for instance, on a grade of two feet to the mile, and when he has reached land that has a different contour then he has to make perhaps a sheer drop in the canal in order to get his canal back on the grade so that his cut will be sufficient to construct the banks. And he frequently secures this drop by the use of movable boards. It is common practice for the one who is in charge of a canal to remove these drop boards and wash out the silts that have been deposited and scour out the canal to a greater depth. In constructing a canal an engineer puts in such a head of water as can be safely handled. Where these drop boards can be removed when it is under a full head of water or is carrying to its full capacity in a large canal it does not destroy the banks. It is frequently done for the purpose of washing out the bed and washing off the banks. In many cases it is quite a valuable assistance in removing the silts. So that with that explanation, taking the old, main canal—of course you are not asking about any other canal but the main canal—the greater part of that main canal is in such shape that it can be changed and brought down. Now, for instance, taking from the head of the old canal down to Camp 13, by removing the waste way in Camp 13 there is a drop of about 6 or 7 feet below the canal, and by removing those boards you could increase the grade of that section of the canal materially.

X Q. 95. Now, taking the outside canal, what grade do
1167 you find to be the uniform grade of that canal?

A. I ran no grade on it. I have my notes in regard to it but I haven't got them with me.

X Q. 96. You don't remember what it is?

A. My recollection is that it is .4. That is my memory: .4 to 5000 feet.

X Q. 97. At any rate you did run a grade on it and you are able to determine what was the grade of that canal?

A. Well, I ran a grade for a number of miles on the outside canal, and as I said before, it was about .4 feet to 5000. That is my memory.

X Q. 98. And on the main canal while there would be this drop in it there at the points you have mentioned, still you could determine the grade of that canal as an engineering proposition, could you not?

A. Well, of course that is a big question. You could really give it any grade that you wanted to. Now you take the main canal prior to the time that the outside canal was dug, and I will say right at the point where the outside canal leaves the main canal, there is a weir across the main canal which holds the water up for a considerable height so that the water may be diverted into the outside canal. Now if you opened that weir and let the water pass directly from the head of the canal right down to the Firebaugh waste and opened up the Firebaugh waste and let the water run into the river there, that would be one of the methods by which they could scour that section.

X Q. 99. You are talking about the grade in the——

A. The possible grade.

X Q. 100. The possible grade in the canal, obtained by the use of manipulating the boards?

A. Yes sir.

X Q. 101. I am talking about the engineer's grade, that would be established if the canal were constructed without the use of these drop boards. If these were not used the engineer would calculate
the contour of the country that he had to pass and construct
1168 his canal accordingly?

A. That is true.

X Q. 102. Now I say, if that canal were dry and you went down it and made a survey you could determine the grade, could you not?

A. Of course you could get an idea by going down along the bottom of the canal.

X Q. 103. You could come pretty close to the grade, could you not?

A. Very close, yes.

X Q. 104. Immediately after that canal was built, you as an engineer could of course, have gone on the ground and by examining the canal itself before any water had been put in it, you could by cross sectioning that canal get almost to a yard the actual yardage removed in excavating it, could you not?

A. Oh, yes, in its original condition, that is true.

X Q. 105. Now if that canal had been used it would probably be either eroded to a certain extent or would fill, and if after a number of years you went there, knowing the original width of it and the original grade of it, and starting in from the beginning of it, you could determine by a survey, with substantial accuracy, the amount either of the fil-ing or of the eroding either above or below the original grades, could you not?

A. Yes. Of course, if you had your original grade and your bench marks, why, that could be accurately told.

X Q. 106. Now when you went there, would it not have been the better way to have determined the actual amount of excavation in those canals by determining by your examination as an engineer the grade upon which the canal was built, the width to which it was excavated, and the general depth and the place from which it started, for the purpose of getting to a starting point, to determine by the condition of the canal rather than by the earth and embankments or anything of that kind, the amount that it had either filled or had washed out, and also the original amount of excavation required to build it?

A. I don't think so. I don't think that you appreciate the
1169 engineering features of it sufficiently in that question. You take a canal that has been built some time, say this canal that has been built 40 years, the possibilities of erosion are so many, to go and run a center line in a great many ordinary conditions that might apply in a great many cases. In a great many cases it would not, because the first thing you have got to determine is the depth of the cut it started with. For instance, if your canal had silted through the entire distance, we may say, and you know what the bottom is, and you run down and take your average of it, why it would be so much more simpler; but you assume that the top of this silt, the crest of this silt, the average crest through the length of it was the average bottom, while in fact the average bottom might be a foot below; while on the other hand if the canal had been eroded you then struck an average it might have been two feet below the original construction. And in the lack of that data if you have not the original profile on which the canal was constructed, and your cross section and your banks speak pretty well of the amount of earth that has been removed in the cut, by getting the amount of earth in the bank plus a certain reasonable amount for shrinkage would give you the amount of earth that was originally thrown from the cut. Then by comparison, if you find the cut to be extremely deep or extremely shallow, you might by examination arrive at a great deal less for the canal in the majority of cases than by examining the bottom of the canal.

X Q. 107. Is it not a fact that in the building of any canal the grade is so run as to get as near as possible the uniform amount of excavation so as not to make the excavation any greater than is necessary at the weakest point in your canal?

A. I don't understand your question. (Question read.)

X Q. 108. What I mean, Mr. Henderson, is this: Is not the

canal placed in reference to the contour of the country and
1170 in connection with rises above the ordinary natural surface, to go around the high places in such a way as to make as near as possible, your excavation of uniform depth, so as you will not have to excavate at one place two feet, and then in another place 10 or 20 feet? That is the ordinary practice, isn't it?

A. Well, of course it entirely depends upon your country. If in places it is economy to a make a 20 foot cut and in other places it is not, you are at liberty to run from one place to another at a uniform cut, if the contour of the country permits. We generally have to decide what water we want in the canal, the consideration of the soil, the velocity that we wish of the water, and then figure the best way of reaching a certain high line where you have plenty of fall. In the main canal in many cases you have drops to counteract the excessive grade. In those cases you could run the canal ordinarily in such places to nearly a uniform grade.

X Q. 109. The main canal particularly runs through a very level uniform country, does it not?

A. Why, as a general rule. Of course in some places there are some big cuts, and there are some places where there are flats. Taking the whole length of the 70-mile canal it is impossible for any engineer to find a country that will fit those conditions, I mean those ideal conditions.

X Q. 110. Of course, I can recognize that that may be true for long distances, but I mean as an ordinary proposition your canal is running practically through a level country?

A. Yes, the main canal, yes.

X Q. 111. Do you mean to say that as an engineer you could not go on that canal today and tell the average depth of the excavation that the contract called for in the construction of that canal as that was actually excavated?

A. I don't think so.

X Q. 112. You don't think you could do it? Do you think you could do it by estimating the banks and the amount of earth
1171 removed, and all the features of it?

A. Yes.

X Q. 113. Did you try to do it?

A. Yes.

X Q. 114. Did you see what the depth and width of that canal was?

A. I did, yes.

X Q. 115. Did you figure your excavation on that theory?

A. No, I did not, on an average. I took the average amount excavated at the different sections that I examined, and the intermediate points, and calculated them according to the general practice, the intermediate points.

X Q. 116. Just as shown by the amount of earth on the bank?

A. Well, that depended upon the section that I am speaking about. In some places I used the cut and in some places the bank.

X Q. 117. That is, you just used your discretion which one you would use?

A. That is the only way any engineer would do.

X Q. 118. Will you show me any case where you used the cut?

A. I will. When I produce the calculations I will show you just exactly what was done in each instance.

X Q. 119. Well now, you say that you had personal knowledge as to certain cases that there had been erosion in the canal?

A. Yes sir.

X Q. 120. Did you make any report that shows here of one, where it is located?

A. Well, no, I did not. The report does not show where that was, any further than the report shows that part of China slough was a natural cut, and further down we used the natural cut, although the canal of course, was formed below the headworks, about a mile or so below, there is a cut that comes out of the San Joaquin river from the headworks and enters the slough.

X Q. 121. But I am talking now of the artificial canal. I am not talking about China slough. I am talking about the washing of the canals themselves. How would you determine as to whether or not the canals were eroded below the original excavation, except by the matter on the banks? What other evidence did you have?

1172

A. Well, that would be one of the strongest arguments that anybody could get at, unless you had a series of levels or a series of cross sections taken at such time before erosion took place. I have cross sections of the canal taken, I think, about 10 years ago, and I notice from a number of tests that I have taken of cross sections in some places, I find that the canal had deepened, was deepening at those points.

X Q. 122. And you took that into consideration in making your report?

A. Yes, that the canal had eroded.

X Q. 123. Now then, as a matter of fact, when you took those cross sections in 1898 or 1899, the canal then being under the superintendence of Mr. Rouse, it had at some points filled with sediment, silt, and since that time the company has spent thousands upon thousands of dollars to get that silt out of that canal, how could you tell whether it had been taken out by erosion or otherwise?

A. Well, if they had spent thousands of dollars in taking that silt out, and took it and put it on the bank, I would measure the banks and that would simply show the amount of dirt taken out. And if they had taken it out and hauled it for miles they would put it in some place where it could be seen.

X Q. 124. Did you find a great deal of that?

A. I found a great deal in the upper works.

X Q. 125. When you found it on the bank how did you determine?

A. I estimated the bank and then I took the cut.

X Q. 126. Have you got any place where you can say you took the area of the cut?

A. Oh, yes. There is lots of it where I used the cuts, yes sir.

X Q. 127. But if you came to the conclusion that there was

erosion instead of taking it out by means of a dredge, then
1173 you did not allow for it?

A. Well, I know where your dredge worked there. Of course, such things as that don't enter into the issue at all; because I know just where you did dredge and just where you did not dredge, because I am familiar with that canal since its construction. And I would say this: For instance, you cut from bank to bank practically straight up and down, and that is proof enough that it was not taken out with a scraper. There could be no other deduction than that there was an erosion.

X Q. 128. Now coming to China slough, that was a natural waterway?

A. Yes.

X Q. 129. And there has been evidently some excavating in that. In making your report in fixing the value of that as a part of the system of the complainant you only allow the amount which you deemed was the amount of artificial excavation?

A. Yes. That consisted of a bank that was thrown out by a dredger and also of a bank that existed there before the dredger was placed in operation. There are two banks——

X Q. 130. I understand. I am just trying to get an answer to my question.

A. I understood your question and I have a right to explain in regard to the banks, that I included both banks.

(X Q. 129 read.)

X Q. 131. Now in order to determine what you considered the amount of excavation there, what did you base your conclusion on?

A. Cross sections of the bank, the bank that was there and the dump made by the dredger.

X Q. 132. And you based your entire conclusion upon the amount of the bank, allowing 10 per cent for shrinkage—the two banks?

A. Yes; you see, I added to the area of the bank 10 per cent.

X Q. 133. And that is what you based your yardage on, as far as China slough is concerned?

A. Yes.

X Q. 134. How many cross sections did you make of China slough?

1174 A. I could not say. Some I remember we made simply with the hand level and tape, and some we made with an ordinary tripod and level. I made quite a number. I forget how many.

X Q. 135. Don't you remember how many you made?

A. No, I could not remember. There must have been all the way from 6 to a dozen, all the way the length of China slough. Also I should say in regard to the amount of dirt that is excavated in China slough, I have knowledge that part of the dirt washed away, and we allowed as if the bank had been continuous, because I knew that that dirt was washed away by extreme high water.

X Q. 136. There is a possibility of a thing of that kind happening in that country?

A. It did happen in China slough, yes.

X Q. 137. If you had not known anything about that by your per-

sonal knowledge you would have gone away off in the making of your estimate of the amount of excavation there?

A. Well, I would not, because I didn't run over the tops of the banks. That is not the idea. It broke through the bank. It washed it laterally away. There was no continuity near the top of the bank. It would wash through in one place, for instance, and weaken the levee of the natural soil.

X Q. 138. But there are points on the main canal toward the head where the water has been entirely over the banks?

A. Yes, there are on the main canal, but not generally speaking on the dump on China slough.

X Q. 139. Now, referring to your testimony in regard to these cross sections I show you four papers with cross sections delineated on them, and I would ask you if those are the cross sections that you referred to in your testimony as having made on the canal?

A. That is a part of it; not all of it.

X Q. 140. Those are the ones that you referred to when you stated to your counsel that you had the cross sections here?

A. Not all of them. I didn't say all of them. There are
1175 some of the cross sections that are not delineated here. For instance, take the bank of the main canal from the lower end of China slough say down to Firebaugh. There were many places where I had the cross sections of the bank and drew them right into my hand book. I took them by the use of a hand level and rod and tape. In that case I didn't plat them, and for that reason I have not got them here.

X Q. 141. I say, these are the ones you referred to yesterday when you said you had the cross sections here?

A. Yes, I had them here.

X Q. 142. These are the ones that you had here?

A. Yes.

X Q. 143. These are the ones that you testified to this morning by saying that they were illustrations of the entire examination that you made, and that from those the same results would be obtained, and that if all the cross sections were here it would simply show a uniform condition?

A. Well, I think so, in the majority of cases. Of course, I made my cross sections, and those that were used that are not here are very, very limited, whatever they were.

X Q. 144. You think they would not change the general result?

A. They would not change the general result.

Mr. TREADWELL: In connection with the cross examination of this witness I offer these four delineations in evidence.

Mr. LANGHORNE: It is understood that we can withdraw these, if necessary, to make blue print copies of them?

(The four sheets offered in evidence are marked, seriatim, "Complainant's Exhibit 29–A. Complainant's Exhibit 29–B. Complainant's Exhibit 29–C. Complainant's Exhibit 29–D.")

(By Mr. TREADWELL:)

X Q. 145. Now what is the scale upon which these are drawn, Mr. Henderson?

A. The horizontal is 1 inch to 20 feet and the vertical is one inch to 5 feet.

X Q. 146. That scale was used on all these just the same?

A. That is my memory. As to Exhibit 29–A and the other

1176 Exhibits I think they were all on the horizontal scale of 1 inch to 20 feet and on the vertical of 1 inch to 5 feet. They are not got up in any shape for an Exhibit. They should have been all marked. I didn't have opportunity to do it.

X Q. 147. And the letters "N. S." does that refer to the natural surface of the ground?

A. Yes.

X Q. 148. Now in the depression below the line that shows the surface of the ground are certain figures. Does that show the capacity of that cross section?

A. You don't mean the capacity, you mean the area.

X Q. 149. Yes, the area of the cross section.

A. Yes.

X Q. 150. Expressed in what?

A. In square feet.

X Q. 151. And above the same line are certain figures in the embankment, and those I take it represent the area of the banks?

A. Yes sir.

X Q. 152. Now referring to Exhibit 29–A, there are two cross sections of the China slough bank?

A. Yes sir.

X Q. 153. Are those the only two shown on this map?

A. Yes, they are the only two that are on these plats, these sectional plats.

X Q. 154. One of those shows the area to be 150 cubic feet——

A. No, no—square feet.

X Q. 155. And the other shows 147 square feet?

A. Yes sir.

X Q. 156. Are those the embankments upon which you figured the amount of excavation from China slough?

A. I think they are the average. Those two will show the average very closely. They are not the only two, but they will average very closely.

X Q. 157. As I understand it, China slough shows on your report to be a distance of 7,800 feet?

A. That is my recollection.

X Q. 158. Now will you figure for me the amount of the excavation in China slough represented in cubic yards as shown by the average of those two, taking 148 as an average?

A. 42,724.

1177 X Q. 159. Cubic yards?

A. In one bank, yes.

X Q. 160. Now will you examine your report and state to the court the amount of excavation that you have allowed in China slough?

A. It is stated here as 8,268 yards. I will say this, that there is evidently an error either in writing it up or in checking it off, I

don't know which. There is evidently an error in that yardage there.

X Q. 161. At any rate, according to your cross sections there would be 42,724 cubic yards, and according to your report you only allow 8,268?

A. Yes. There is an error in arriving at that.

X Q. 162. Now if you will correct that error during recess maybe we can get some idea as to what the rest of that means.

(At the hour of 12 m. recess was had until 2 p. m., when the cross-examination of the witness was resumed as follows:)

X Q. 163. Now Mr. Henderson, is there any further explanation that you wish to make in regard to this discrepancy?

A. Well, no further than that the error is simply clerical, either on my part or in the copying, and that the time that I had to get the report out was too short to give me a chance to compare it, and Mr. Langhorne telegraphed me that I would have to be here, and the result was that I worked every night until 1 o'clock for over a week, and I presume that it was a case of too much rushing of the work it represents; there are a couple of those errors there and it is either my own fault or the fault of writing it out and not being able to compare it. And still, there is little possibility about this scale of that section. I think there is an error there, at least.

X Q. 164. Now, the two cross sections that were referred to there, one of them was 150 and the other 147, making in round numbers 42,000 cubic yards?

A. Yes sir.

X Q. 165. Then there would be, according to your method,
1178 added still to that, 10 per cent, as a further amount for any shrinkage in the bank, I understand?

A. Well, I would not on a dredger dump where it is not older than that is, because I think that probably the quantity is in excess. I rather think the loosened material occupies a bigger space than it did before it was removed from the cut. But had it been trampled over by stock or teams, or both, in the course of years by travelling on it, or by a method of hauling it out from the ditch by scrapers and dumping it, then it would have been packed down; but where it was put thereby dredger I didn't intend to allow any percentage for shrinkage.

X Q. 166. You think, then, that a dredger dump comes nearer to showing the actual amount of excavation than a scraper dump?

A. Well, if anything it would be the reverse.

X Q. 167. Yes, that is, a scraper dump will come nearer showing the amount of excavation than a dredger dump, will it not?

A. A scraper dump would be more apt to be under the actual amount than a dredger dump would be. A dredger dump is very apt to be in excess of the actual amount excavated. Loose dirt, when first excavated from the cut, invariably swells. It is not compact. It will run loose. If it is dumped out in such shape that it is not compact in the operation of dumping, why it is very apt to occupy much more, and sometimes as high as 50 per cent more bulk than if

it was taken out and compacted by tramping with stock or by rolling or whatever method they might use.

X Q. 168. Now, with this dredger proposition this dirt is taken out wet, is it not?

A. Yes sir.

X Q. 169. And in the case of the scraper it is taken out dry?

A. Yes sir.

X Q. 170. Now do you mean to tell me that when you dig out this levee dirt from the sloughs, with the water, and dump it out, that it takes more space than if you dug it out with a scraper
1179 dry and threw it on the bank?

A. That is the experience of engineers according to their reports.

X Q. 171. Is that your experience?

A. That would be my judgment in the matter. I don't say what the per cent was, but I said it was more.

X Q. 172. Have you any definite recollection whether you did allow 10 per cent on that or whether you did not?

A. No, I did not, I didn't intend to.

X Q. 173. Now, beginning with Exhibit 29-C; do you recognize the location of the first cross section on that?

A. Yes sir.

X Q. 174. Where is it?

A. It is at Station 9 plus 54 on the main canal.

X Q. 175. Where were the other stations started from?

A. From the old headgate, from the front line of the old headgate.

X Q. 176. And what does the first number represent? The 9 there?

A. It represents the number of hundred feet.

X Q. 177. It is 900 feet?

A. 954 feet.

X Q. 178. And is that an excavated canal?

A. That is in the cut, yes sir.

X Q. 179. Now do you remember whether you used the banks there or the excavation, that is, the depression, for the purpose of determining the amount of excavation?

A. I would have to look it up to see.

X Q. 180. Now, calling your attention to that, you note that the total area of the two banks only amounts to 281 square feet, and that your area of the canal itself below the natural surface of the ground amounts to 519 feet?

A. Yes sir.

X Q. 181. And you cannot say offhand which one of those you took in determining the amount of excavation there?

A. I don't recollect just at the present time. My record would show it.

X Q. 182. That would make a good deal of difference?

A. A material difference; say nearly twice the difference
1180 X Q. 183. So if as a matter of fact——

A. Not twice, one would be 281 and the other is 519.

X Q. 184. So if as a matter of fact, looking at the exhibit there,

and applying the knowledge that you say you have of this canal you had determined that it would be more proper and more nearly right to use the banks, namely 281 feet instead of the excavation 519 feet, why, it would have made a difference in your report of substantially one-half of the excavation?

A. Well, not one-half, because if I had used the banks there I would have added 10 per cent to them, which would have brought them up to 300, and the other was 219.

X Q. 185. If not one-half, it would be between one-third and one-half, at any rate?

A. Yes, between one-third and one-half.

X Q. 186. Now do you know whether you allowed 10 per cent in that case or not?

A. Well, I don't know if I did. I could tell you when I get them all together. But I allowed 10 per cent in all banks outside of China slough.

X Q. 187. China slough is the only one that you did not?

A. China slough. The question was in my mind whether that was part of the canal or not.

X Q. 188. I don't know whether you allow us anything for that, or not.

A. In one sense of the word I don't know whether that should be included as part of the canal or not.

X Q. 189. Now Mr. Henderson, didn't you yourself say in answer to my question, that you didn't know whether you allowed 10 per cent on that or not? Now you say that you know you allowed 10 per cent in every case.

A. That was my intention, to allow 10 per cent on all those except China slough.

X Q. 190. Then I understand that you don't know whether you did or not? What do you mean by that?

A. I mean that I don't know which one of the two methods I used in measuring.

1181 X Q. 191. Oh, you don't know which one you used there?

A. No, but my notes will show.

X Q. 192. Do you know of any reason now, in your own knowledge, why the excavation as it actually shows there in that cross section, should not govern rather than the banks?

A. I am positive that that section there has eroded.

X Q. 193. You are positve of that now, are you?

A. Yes.

X Q. 194. Then you know that you did not use it?

A. Well, I am positve that I didn't use it.

X Q. 195. Are you positive that it had eroded then?

A. Yes.

X Q. 196. Then if you are positive that it had eroded, why are you not positive as to the method of calculation?

A. It would depend on many things. It might not depend on one idea. I might go to a place where I knew the banks would not give a satisfactory result, and where I knew that there had been erosion. I used the one that I thought would give the most accurate result.

X Q. 197. Now calling your attention to the cross section at 195

plus 50, the total area of the banks there appears to be 105 on one side and 45 on the other side, making 150, whereas, the area of the excavation itself is 488. Now that represents, does it, the difference, if you add 10 per cent to the banks, of the result that would flow from using the banks as a criterion rather than the depression below the surface of the ground?

A. That would show the difference in the calculation, yes.

X Q. 198. The difference between about 165 and 488?

A. Yes sir.

X Q. 199. Now do you know which one of those methods you used in that case?

A. No, I would not want to say offhand. As I said before, I would rather give you the positive conditions.

X Q. 200. There is nothing in your report that directly, at any rate, shows which method you used in any case?

A. No.

1182 X Q. 201. Now taking the cross section at 252 plus 73, the bank appears on one side to indicate an area of 83 and on the other side of 61, making a total area of 144. Adding 10 per cent to that would make a total area of 158. Whereas the area of the depression below the natural surface of the ground is 461 square feet—that represents the difference, does it, between the results you would reach by using the banks as the method, as distinguished from the excavation itself?

A. Practically so, yes sir.

X Q. 202. Do you know which you used in that case?

A. Well, I would rather give it to you exactly as I used it, along with the others.

X Q. 203. Now, taking the next four cross sections on that page, being at 275 plus 39, 281 plus 69, 287 plus 57 and 299 plus 05; the differences between those two methods would be not far different from the one we have already referred to, would they, they would be very wide, would they not?

A. Well, the last one goes closer.

X Q. 204. The first one is as high as about 2 to 1?

A. The one at Station 275 plus 39 is about 2 to 1.

X Q. 205. The one at Station 281 plus 69 is substantially as 177 is to 511, adding, however, the 10 per cent?

A. Yes.

X Q. 206. And the one at 287 plus 57 would be as 190 is to 436, allowing for the 10 per cent?

A. Yes sir.

X Q. 207. And the one at 299 plus 05 would be as 235 is to 363?

A. Yes sir.

X Q. 208. Coming closer together?

A. Allowing of course, for the shrinkage.

X Q. 209. Now without going further into the next column, do you know offhand, without looking at those, whether or not the condition that I have called your attention to follows along with about that same proportion?

A. You mean the amount of cut as compared with the area of the banks?

1183 X Q. 210. Yes.

A. Well, it follows along until you get quite a ways down.

X Q. 211. For some places it would be closer together and for some places, possibly, even farther apart, you say?

A. Of course, if you get far enough, my recollection is that some of it in some places it shows that there is more earth in the bank than there would be in the cut.

X Q. 212. Now where there is more earth in the bank than there is in the cut did you follow the bank or the cut?

A. Well, that would still depend. I would have to look at my notes to answer that.

X Q. 213. You can't remember that?

A. It is not a question of memory, it is a question of conditions.

X Q. 214. Let us see whether that condition occurs anywhere. You mean, that there is doubt in your mind and if you had come along and taken a cross section you would not have known whether the cut was less than the bank?

A. That is a question that does not arise with an engineer. There is no doubt in his mind about it. He would be governed entirely by the conditions. If he knew that it had been eroded and that the banks spoke nearer the truth as to the particular amount of excavation, why he would certainly use the banks. And if he knew that the banks had been hauled away to build some other bank or something of that kind——

X Q. 215. I am not giving you that case.

A. You are giving me a case without any conditions.

X Q. 216. I am giving you a case of the bank showing more earth in it than there was in the cut as shown by your cross section. Now I say, is there any doubt in your mind as to what you would do in a case of that kind?

A. I would simply do as I have stated before. I would be governed by the conditions that would be locally found, whether I should in my judgment take the cut or take the bank.

1184 X Q. 217. Then in other words, there might be conditions where you would take the bank in some circumstances?

A. There might be conditions where I would take the bank in preference to the cut.

X Q. 218. In other words, you in that case charge the county and the people of the county, the whole of the county, for more canal than it actually had—that is what I understand your testimony?

A. More canal than it actually had?

X Q. 219. More excavation than they actually had.

A. Your statement is not true.

X Q. 220. I am trying to ask you whether you would do that or not?

A. I don't think those conditions would exist. If the dirt was in a bank which had been excavated and you allowed the Canal Company for the dirt in the bank, if the dirt was in the embankments in the two banks, greater than that which was in the canal, and the Canal company was allowed the amount of that was in the banks which was excavated, why, of course your statement could not be true. They would have excavated it.

X Q. 221. As I understand you, if I do understand you then, you would allow the company for the amount that was excavated if you determined that the amount shown by the banks was the amount excavated, although the canal had for some reason or other become filled up so that it did not show the amount at the present time; is that correct?

A. Well, that would depend upon circumstances also. If the canal had silted up to such a point that the inside section of the canal would show that the banks could not have been replaced within the cut, and the cut was insufficient to carry the water of the canal, and therefore the excavation became useless, why, I probably would estimate the banks, and if the time warranted and I had authority to do so, I probably would attempt to make an estimate of the amount of material or silt in there, and the quantity of earth which would be valuable to the county that the Canal Company had
1185 actually excavated, I would consider the difference between the silt and what was shown in the banks.

X Q. 222. Yes, but you have testified that you did not do that in any case?

A. I did testify so?

X Q. 223. Yes sir; that you never deducted anything for the fact that the canal had filled up.

Mr. LANGHORNE: I beg your pardon. He testified that he had made no separate estimate of it.

The MASTER: The record will show.

Mr. TREADWELL: I will withdraw it.

X Q. 224. Now from the various cross sections that you have made of that canal, the knowledge that you have of it during the years that you have referred to, and the examination that you have made of it, are you able to state what was the average depth of the excavation made by the construction of that canal originally?

A. No, I have not figured out the average depth.

X Q. 225. You are unable then to construct an ideal canal there at all, the way it was originally constructed?

A. I am able to, but I have not done it.

X Q. 226. But you could do it?

A. Why, certainly. I could construct it in time. I would base it on my judgment of what the work originally was, in a way, except where I took the upper sections of the canal where it is evidently eroded to a considerable depth, then the only way to arrive at it, as I said before, would be to take the earth that was in the embankments plus a reasonable allowance for shrinkage and applying a cross section provided the width had not washed or decreased.

X Q. 227. From your experience in regard to canals, and especially in regard to these canals of complainant, what would you say as to the tendency of those canals as to silting, whether they would silt or whether they would not?

A. I should say that they would silt. Of course, they
1186 would not silt as badly as some other canals for the simple reason—silting in a canal is not always from the material that is brought in there, but it is due frequently to the deterioration

of its banks working into the canal. Now you take in the country that is over here, it is very loose soil brought out in an alkali condition, and where it is silting it is often brought in by the wind into the canal and accumulates along the banks in places where the velocity is such as to drop the silt.

But speaking of this canal, there are certain times of the year when outside of the accumulation of material that blows in, there should be a very small percentage come in at the upper works, because the San Joaquin river after the June rise is down is a pretty clean river, and outside of that water that comes in from Fresno slough—that water is very dirty and at times very heavily laden with silt. That would have a tendency to silt up the canal; and in my opinion in regard to your canal as a whole, I think that the silting that is down in the lower part, in the central lower part, is more likely the material that washes out of the upper end, and is simply carried on down, and is not so much foreign material.

X Q. 228. Now, what I was going to ask you was if there was any washing of a canal it would simply wash from one side to the other or would wash down from one place in the canal to another place?

A. Yes.

X Q. 229. And as a general proposition a large part of that washing still stays in the canal?

A. Of course, when you agitate the earth, like in dredging in a canal, while you are irrigating there, all those particles that are held in solution are bound to come down in the canal and eventually if the velocity of the canal drops the dropping of the silt occurs. But that depends entirely upon the fineness of the silt and upon the velocity of the water. So I imagine that both of those conditions have some effect; both the moving from one point further
1187 down from the slough in the upper section of the canal, the greater part coming from there, and the lesser part coming from the headgate of the river and from Fresno slough.

X Q. 230. Now taking that canal and just letting it run year in and year out without moving any of the silt at all, what would you say would be the condition at the end of that time? Would it have decreased or increased in its cross section?

A. Do you give a time?

X Q. 231. No; take any length of time, any series of years.

A. Well, it would be this way: if the conditions remained the same, with the flash boards placed in your weirs so as to maintain your low minimum grade, I should say that probably the silting would be general; but if you allowed the upper section to have an increased velocity the chances are that it would erode the bottom out and move it down toward the end of the canal. That is the general way. Now in special cases where the canal grass or some growth of grass in the canal obstructs it, or some growth of aqueous weeds which frequent all canals in that valley, they tend to accumulate and the decomposition of this growth has a tendency to fill your canal up by catching the silt, but your silt is carried down and deposited in curves where the velocity of the water is less. The velocity is greater on the outside curve than on the inner curve, and you are

very apt to find silt deposited on your inside curve; and that will apply wherever those conditions exist.

X Q. 232. Now that being so, are you able to approximate the annual amount of silt that would deposit in those canals?

A. Why no, I don't suppose I could. I don't think anyone could. I don't think any engineer without serious study of the situation could. For illustration: I made an examination of the Crocker system, the Hoffman Land & Water Co.'s canal, and in eight years for a distance of four miles—well, I might be a little
1188 off in the year and a little off in the distance; it might be a year or two either way; but between 8 and 10 years, and the distance would be between 3 and ¾ and 4½ miles, I think the average silting in the bottom was about 30 inches; and that stream may have taken up a little more mud from the river direct than your system. But the principal part of that was caused simply by the heavy growth of aqueous plants. They would get laden with silt and decay, and then commence with a new growth and go on decaying until weighted with sufficient silt when they would sink to the bottom.

X Q. 233. Do you think there is more silting or less in the main canal than in the Crocker system that you refer to?

A. I think in your canal, owing to the nature of the soil—I am inclined to believe that the upper sections of your canal are strongly alkaline and I think that the soil that gets into the canal gets into solution quicker than if it were not alkaline, and once in solution it is carried with a lesser velocity and for a longer distance than is the silt in the Crocker-Hoffman Canal. Therefore, unless you have a grade in your canal in the first place which is more rapid, the silt would be carried a longer distance. If you have a record of it, the record which the engineer used when he constructed the canal, you would know where the bottom was and then you would know how much silt had been required to fill it to the present grade. That is the only method by which you could form a correct idea of the exact amount of silt.

X Q. 234. Coming back to the question that I am aiming at: In your opinion, taking the canal on an average, would the tendency be for it to silt or to increase its cross section?

A. Well, I am inclined to the belief that for the past number of years the upper part of the canal would have a tendency to erode and the lower part to silt.

X Q. 235. And those two would pretty nearly balance each other?

1189 A. Well, with the exception of the growth and of the material coming into the headworks from the sloughs and deposited in the canal.

X Q. 236. At any rate, you do know that silting is one of the things that every canal has to fight against?

A. Yes.

X Q. 237. It is a constant expense, is it, it entails a constant expense for removal?

A. Yes sir.

X Q. 238. Especially when you have a heavy flood and the water

falls suddenly, it is likely to deposit large quantities of silt, especially in the upper part of the canal?

A. Well, of course, if there was an overland flood, a cross-country flood at the upper section of the canal, which flows over the banks, it is very hard to keep the sides of the banks from being carried into the canal, and a great deal of detritus material carried in with it.

X Q. 239. So that in any canal you can take it for granted generally, unless there has been work done in the way of removing the silt, that there is a tendency for the canal to decrease its cross section rather than to increase it?

A. Yes, if the grade of the canal is light and uniform.

X Q. 240. Now that being so, it is generally a fair proposition to estimate that a canal was excavated at least to the depth at which you find it, for a series of some 30 or 40 years, say, is it not?

A. Well, of course you have omitted one important factor in all canals, and that is the feature of whether it is cleaned or whether it is not cleaned.

X Q. 241. Well, in cleaning a canal generally it is cleaned in sections, is it not, it is impossible to clean a whole canal of this kind in one year?

A. It is generally cleaned in sections.

X Q. 242. It can only be treated in sections?

A. Of course, you must have in view that great progress has been made in cleaning canals. We don't have to dry canals out
1190 now in order to clean them.

X Q. 243. Well, they can do anything, I suppose; but taking the methods ordinarily used, the methods that you would use in this canal. What method would you use in this canal, for instance?

A. Very light rotary suction dredgers.

X Q. 244. At any rate, it is not customary in cleaning a canal to increase the cross section of the canal when you are cleaning it? Usually you just remove the deposit, do you not?

A. That is a pretty broad question. It would depend upon whether you wanted to carry more water than was carried. Cleaning a canal is one thing and enlarging a canal is entirely a different proposition. Of course, your question did not separate the two. But if you are just cleaning it, there would be no increase in the cross section. The question would apply then I suppose, to going just to the former grade.

X Q. 245. Of course, if a canal was enlarged, I suppose you would admit that we would be entitled to that as a part of our value of it?

A. Yes.

X Q. 246. So that is eliminated from this question. And I am simply saying, that leaving natural conditions to take care of themselves, a canal would have a tendency in the long run to fill up and decrease its cross section, and it would only maintain that cross section by being cleaned?

A. The ordinary canal would be that way.

X Q. 247. So that it is not an unusual thing for a company to claim that it is at least entitled to the excavation shown by the actual condition on the ground, by the depression below the natural

surface at the time the examination was made? Ordinarily you would say that that certainly was not at any rate more than the actual excavation, would you not?

A. Under ordinary circumstances that would be true.

X Q. 248. As I understand you, you have not got here your figures which will show the amount of excavation here, if you
1191 had allowed us for the full amount of the depressions shown below the natural surface?

A. No, I have not.

Mr. TREADWELL: Of course, that part of the subject I cannot complete until Mr. Henderson gets his notes in regard to those methods that he actually used, and I would like you to figure that, if you would, Mr. Henderson, and give the actual amount of excavation if you had simply followed the line below the natural surface, irrespective of course, of China slough.

Mr. LANGHORNE: The witness is willing to answer any question, but I submit that he ought not to be required to make these calculations. It will take him probably a month to do it, to make a full statement. I think counsel would accomplish what he wants by asking him to take the canal at various places and show instances of what he wants to show, and make this calculation in that way; but to make it as to the entire system would take a very long time. I submit that this witness cannot be compelled to work in that way, but he is willing to answer questions. He will come in and bring his notes here.

Mr. TREADWELL: The opposition comes with poor grace from counsel. When our witness was on the stand you asked him for a comparison of his reports of 1906 and 1896, and he went home and made it. He worked four days on it, or a week, possibly; I forget exactly how much. I know that we were paying him at the rate of his regular compensation per day, and it amounted to a good, large sum to get that information for counsel, and the maps made by Mr. Hammett were produced here without a cent of cost to you.

The MASTER: I think very likely that when the witness gets his notes that he has written for, counsel will be satisfied with the examination of the witness upon those notes.

(By Mr. TREADWELL:)

X Q. 249. You stated, Mr. Henderson, that some ten years ago you made a survey of some part of this canal. That was near the head was it not?

A. Yes sir.

1192 X Q. 250. And running down how far from the head?

A. Well, I think that the first survey run down to Firebaugh, and then—of course, I am not positive, but I am inclined to think that it was a little below Firebaugh on the main canal.

X Q. 251. Have you got that survey?

A. I don't know. I think so. I endeavor to keep all my notes.

X Q. 252. Did you have it with you when you made this last survey?

A. No, not on that particular survey.

X Q. 253. In making this last survey did you have any particular bench mark that you started from?

A. Yes.

X Q. 254. What was it?

A. Well, you understand that our bench mark that we used was simply in connection with certain parts of the canal. We used a bench mark at Firebaugh but we run no line of levels to make the canal.

X Q. 255. That is what I say. This last time you ran no line of levels?

A. None in the length of the canal.

X Q. 256. Therefore you needed no bench to start from as a base?

A. No, our cross sections were taken with reference to the surface of the ground at the point of cross section.

X Q. 257. But of course, in the other survey which you made some 10 years ago for the purpose of determining the discharge of the canal, I take it you have some particular base from which you started to make your survey?

A. Yes.

X Q. 258. And of course, you didn't use that base for your last survey?

A. We didn't use any base.

X Q. 259. You didn't use any base at all at this time?

A. No. The last one was a chaining of the length of the canal and the cross sections at different points along the canal. The different elevations had reference to certain datum at the individual cross sections.

X Q. 260. Now how could you tell by comparing those two surveys that the canal had changed?

A. Well, I have tied in a number of times the elevation of the canal at Firebaugh's from the bench there; just compared 1193 the original work

X Q. 261. Did you know the bottom of the canal with reference to that bench?

A. Yes.

X Q. 262. If you knew that, if you had knowledge as to where the bottom of that canal was with reference to that bench mark that you made 10 years ago, why didn't you start with that at this time, and locate the original bottom of that canal?

A. Well, I never said that that was the original bottom.

X Q. 263. What was the bottom as you understood it and accepted it 10 years ago?

A. As the original bottom?

X Q. 264. No, the bottom at that time.

A. Well, the bottom when I took the cross sections

X Q. 265. Ten years ago?

A. Yes.

X Q. 266. But you didn't use that at this time?

A. In the neighborhood of 10 years ago.

X Q. 267. What I am trying to get at is, how could you tell that the canal had filled in?

A. I never said that it had filled in.

X Q. 268. Didn't you say that it had eroded since at particular points?

A. Because I had examined it a number of different times during the last 10 years.

X Q. 269. You had examined it? Have you any surveys that would show that the canal has washed out during that time?

A. Well, I should have. Of course, during that time I have written up a great many books, but I think I have that book, yes.

X Q. 270. At any rate, you have not compared them?

A. Well, I have compared the results of more recent years which I knew were deeper than those of former years. I didn't go back and compare the several years. I didn't even look for them. The last time that I took the bottom of the canal I think was about 1902 or 1903, previous to this; that is, at some of those principal 1194 points.

X Q. 271. And for all you know, at the time you took those first surveys the canal may have silted since that time, and the silt may have been removed?

A. Well no, I would say not, because it was not a correct comparison. You can generally tell silt in the canal from the natural soil. Of course, I have seen the canal when the water was practically out of the canal, during very low periods, and at times of canal cleaning, and things of that kind.

X Q. 272. You found no silt in the canal 10 years ago?

A. That does not follow, even if the canal has been eroded in one point——

X Q. 273. I am talking about the same point.

A. There might have been placed in the upper end that were silted. But it does not follow that it was all silted.

X Q. 274. And it does not follow that it is all eroded?

A. It does not follow that it is all eroded, but it does follow that there are places that are eroded.

X Q. 275. You were not examining the canal at that time for the purpose of determining the carrying capacity, were you, 10 years ago?

A. I think the object at that time was in the suit of the Chowchilla against Miller & Lux, if I am not mistaken, and it was to determine, if possible, the rate of the increase of the canal by the erosion at that time. That is my recollection.

X Q. 276. Now in regard to this report; at what price have you figured excavation?

A. Well, from 5 to 7 cents; nothing over 7 cents.

X Q. 277. What character of excavation have you estimated at 5 cents?

A. The dredger work.

X Q. 278. And what at 6 cents?

A. Well, that part would be dredger and excavator. The greater part of it would be excavator. I forget just the rate, but the report

speaks of each section, just what it was charged for, and I
1195 can take the report and show you what my calculations are on each section.

X Q. 279. Just a moment. I want to get your answer to this question. I want to know what character of excavation you have charged in your report at 6 cents?

A. Well, where the greater part is excavator work, that is estimated at 6 or 7 cents.

X Q. 280. Well, what difference do you make between 6 and 7 cents then?

A. In the character, in the amount of dirt that would have to be moved in the cross sections.

X Q. 281. Now, your estimate of 5 cents is where it will all be taken by the dredger?

A No, there is no place where I figured that it would all be taken by the oredger.

X Q. 282. Didn't you say that that was the figure where it had all been taken by the dredger?

A. I did not intend to if I did. I don't think I did.

(X Q. 277 and answer read.)

X Q. 283. Now then, as I understood you to state you estimated the dredger work at 5 cents. Is that correct or not?

A. Well, as I said in my direct examination, in the main canal my idea of it was to just build part of the banks, the shell of the banks, with the excavator, and remove the remaining part of the canal with the suction dredge.

X Q. 284. Now, is that the kind of work that you figured at 5 cents?

A. Those combining the two I figured at 5 cents.

X Q. 285. Now what do you charge at 6?

A. Well, where I figured a lesser per cent of suction work; the greater the amount of suction dredge work, the cheaper the work can be done for.

X Q. 286. What canals could be done partly by dredge under your 6 cent proposition?

A. What is that?

X Q. 287. Which canals could be done at 6 cents according to your theory?

A. Well, I would have to look and show you to see what part of the work. My recollection of the matter is that the Dos Palos is put at 7.

1196 X Q. 288. I am asking you about 6?

A. I will have to look it up.

Mr. LANGHORNE: We object to that on the ground that the witness has made his report in which he states what portion of the canal is estimated at 5 cents and what at 6 cents and what at 7 cents.

Mr. TREADWELL: The witness is here to testify as to his information as to what this could be done for.

The MASTER: I overrule the objection. Let the witness answer.

A. Well, the witness does not understand unless counsel gives him an idea of how big a section.

(By Mr. TREADWELL:)

X Q. 289. I am asking you for any canal and all the canals or parts of canals that you have allowed 6 cents per cubic yard for in excavating?

A. Of course, that would entirely depend. I could not remember the sections of all the canals, but my recollection is that the main canal is 5 cents and the Dos Palos 7 cents, and I could not say positively whether I put part of the 6 cent rate on the outside or not. But examining the width and the amount of material I made up a scale, and I can give you that when I have my figures here. I could not tax my mind with 140 miles of that canal, just what I estimated it at. I don't remember.

X Q. 290. How many canals have you built in California?

A. Well, do you mean complete systems, or just pieces? I have done lots of different work on canals.

X Q. 291. What is the biggest canal you have had anything to do with?

A. I think the most work I ever did on one canal was the Crocker system.

X Q. 292. Now, in any of the canals that you had anything to do with, were any of them constructed by the method that you have delineated in regard to the use of the New Era scraper and the dredger between?

A. No, only the present work that is going on up at Stockton is being done substantially that way; that is the diverting
1197 canal.

X Q. 293. That is the only thing that you have had anything to do with that is done in that way?

A. It is done complete with the two combinations. But combining the two methods of work would not make it cost more than one method.

X Q. 294. Just answer my question?

A. I have a right to qualify my answer.

Mr. LANGHORNE: I submit that the witness has a right to make a complete answer.

The MASTER: Anything that is cognate to the question the witness can explain.

(X Q. 293 read).

A. What I wish to explain is that I have had a great deal to do with the Era grader and have had considerable to do with dredgers. And I have excavated with graders a little below and a little above 4 cents.

Mr. TREADWELL: Now, if the court please, the gentleman is very willing, of course, to give any evidence here that he thinks may help his side. But I have not asked him anything about 4 cents, or the cost of anything outside of the work on our canal system. I move to strike out his testimony on that point.

X Q. 295. Now, I will ask you if you have ever built any canal in the manner that you have spoken of here about building the

main canal of this Company, by first using the scraper to make the banks and then using the dredger to dredge out the middle and fill up between the banks that you have erected with the scraper?

A. The excavation must be for the use of the canal?

X Q. 296. Why, yes, I don't care anything about anything else, only about the canals.

A. I have never used the two together in just the manner in which you place it.

X Q. 297. And do you know of any canal in the San Joaquin Valley that has been built in that method?

A. No, not with the two together. Well no, you would not combine the two. There has been both of them used in the
1198 canal, but not suction dredgers, no.

X Q. 298. You don't know of any canal of any considerable length in the San Joaquin Valley that has been built by a suction dredge?

A. Well, drainage canals, but not irrigating canals.

X Q. 299. You refer to some work being done in the vicinity of Stockton?

A. Yes.

X Q. 300. In the vicinity of Stockton there has been a great deal of reclamation of the islands and the overflowed lands around there, has there?

A. Yes sir.

X Q. 301. And there has been very common use of dredgers in that country for the purpose of throwing up these levees for the purpose of making that kind of reclamation?

A. Yes sir.

X Q. 302. It has been very common in that section of the country?

A. Yes sir.

X Q. 303. Now, where is that canal that is referred to that is being built at the present time?

A. It is out on the east of Stockton, out on the heavy black land, as you would term it, the heavy land.

X Q. 304. And where is the canal taken out from?

A. It comes out of Mormon channel, out of the Calaveras river.

X Q. 305. What is generally called Mormon slough?

A. Well, Mormon slough or Mormon channel.

X Q. 306. And that connects directly with the Bay, does it not?

A. Well, it does not. There is no tide water in it, if that is what you mean.

X Q. 307. No, but there is direct water connection with Mormon channel?

A. Yes, just the same as with the San Joaquin. It drains eventually into tide water.

X Q. 308. And how large a canal is being constructed there?

A. It will be about, I suppose, an average of 150 feet wide.

X Q. 309. And how long has the work been in progress?
1199 A. About six months; five months.

X Q. 310. And what method is being used in the construction of that canal?

A. Well, that being a dry land dredge, they dig along on the dry ground with a clamshell before they remove the dirt from the center, and build the shells with it. And they cannot complete it until they get the water from the Canal Company and fill up the cut formed by the Clamshell dredge, and then they put a suction dredge in there and fill in the space between the two.

X Q. 311. They get the water from the Canal Company? Would it be the same Canal Company that is building the canal?

A. No sir, they buy it from another company.

X Q. 312. They buy the water?

A. Yes.

X Q. 313. Now, one of these suction dredgers costs about how much?

A. Well, the Crocker Co. are using one in their canal that cost $3,000, and you can get them from $60,000 to $70,000.

X Q. 314. Such a one as would be necessary to use in the construction of such a canal as the main canal here, if it could be used at all, how much would such a dredge cost?

A. Well, I should think that it would probably cost about $20,000.

X Q. 315. That dredge could not be taken up the San Joaquin river to the present headgate of the canal, could it?

A. Of course, you don't say when it was made, whether in the dry period or in the wet season. When boats run up the San Joaquin it could be towed up.

X Q. 316. Do you mean to say that you could tow one of those dredgers up the San Joaquin river to the present head, or weir of complainant?

A. Well, there might be a dam interfering, but it is nothing that could not be accomplished. Boats run up as far as Firebaugh's and from there during high water, and the dredge should not draw any more water than an ordinary river boat.

1200 X Q. 317. How long since any boat has gone up there of anything like the size of a dredge?

A. I think that I saw the last boat along in 1900 or something.

X Q. 318. What kind of a boat went up there then?

A. Well, I think it was in 1900 there was a river boat that brought up lumber.

X Q. 319. Were you there?

A. I saw it, I think. My recollection is that I saw it above—let us see, I am not quite sure. I saw it once pretty well up, and the next time I saw it was in below the Dickenson Ferry. It was then going up, the boat was.

X Q. 320. That was about 60 or 70 miles below the head of the canal?

A. About 40 or 50.

X Q. 321. What time of the year? Do you know what time it was that the boat went up?

A. It was during the spring high water.

X Q. 322. You would not take a contract to get that dredge over the dam of the complainant, I suppose?

A. Well, they have plans provided for a method of opening the

dam so as to pass it through. I have never seen it opened since they had water in it.

X Q. 323. But you think it could be done?

A. Yes, I think so during high water.

X Q. 324. Do you think you could take that dredge over the top of the dam?

A. Perhaps the records don't show it, but I understand the dam can be taken out for the purpose of letting boats pass. There is an opening in the dam 60 feet wide for that purpose, built by the complainant in this case for the purpose of letting boats go through.

X Q. 325. You have never known of any boats going through?

A. Not large boats—not larger than 30 foot boats, something of that sort.

1201 X Q. 326. Then you say that this dredge could be built at the headworks, do you?

A. Why yes, that would be my plan; if I was to do the work I probably would build more than one dredge.

X Q. 327. How many dredgers would you build?

A. To do that work I should think two light dredgers.

X Q. 328. How would you start your work? Both together at the same place?

A. No, I think I would start one down below.

X Q. 329. Where?

A. Some distance below, so as to divide up the work.

X Q. 330. Would you start one at the head?

A. Well, of course, I would start one at the head of the system and one down say 25 miles.

X Q. 331. Where would you get water for working 25 miles down?

A. I have not stated that in my estimate. My statement was that I would construct two dredgers. I would open a way with the Era excavator sufficient to carry water.

X Q. 332. You would have to do that in order to carry out your scheme? You would have to have your banks sufficiently strong and tight and sufficiently heavy so that they would carry water in order to carry out your plan?

A. Well, I am not going to carry water between the banks. I am going to carry the water in the excavation made in the earth where the material is taken from. I am going to run the water in the cut from which the material is taken to make the banks.

X Q. 333. Then you have to have your excavator do the work in such shape that you could actually carry water through your excavation in order to run your dredge beyond?

A. Yes. I would do the excavator work in advance of the dredge work.

X Q. 334. I understand that; but I say, you would have to have it done in such a way that you could carry water through the channel of the excavation made by the excavator?

A. The excavator would work and remove the dirt, and

1202 the channel so formed would be filled with water.

X Q. 335. I understand that. And when the excavation was made it form- part of the canal when completed?

A. That dirt would go to form the banks.

X Q. 336. How deep would you dig that cut in reference to the depth of the canal?

A. Sufficiently to furnish a channel deep enough—of course, you might have to do a little scraper work occasionally in order to complete your channel.

X Q. 337. You would not go clear down to the depth of your canal would you, with your excavator?

A. Oh, no.

X Q. 338. Then you would have to get water to run at a higher level than your canal ultimately would have?

A. No sir.

X Q. 339. If you did not excavate down to the bottom of your proposed canal, you would have to have water run on the level that you did excavate, wouldn't you?

A. Yes, but the water not only runs on the bottom of the canal, but it runs on the sides of the canal.

X Q. 340. I understand that. Now, in order to accomplish that you would have to put your weir in the river before you started up your work?

A. Yes sir; of course, a temporary structure, a brush dam, if there was any object in doing so, you could put in. It is not absolutely essential to put in a weir because you could divert your water with a brush dam.

X Q. 341. You would have to put in a weir or a brush dam?

A. Yes, or some method of diverting the water.

X Q. 342. How was the work being done on the Stockton proposition? By the owners or by contract?

A. Well, no sir. It is not done by the owners. The United States Government is the owner. It is done by contract.

X Q. 343. They have let contracts for that work?

A. Yes sir.

X Q. 344. And is there one contract for the excavation, or more than one?

A. I only know of one.

X Q. 345. To whom is that contract let?

A. To the California Development Co., I think it is, or the California Reclamation Co.

1203 X Q. 346. Who is at the head of that company?

A. Well, I don't know just who is. I do know, but I don't remember his name. A man by the name of Connors, I think, is the Vice President.

X Q. 347. Where is he?

A. I believe he lives in Stockton at present. I think he moved to Stockton.

X Q. 348. What are his initials?

A. I could not tell you that. I have his initials in the office, and his signature.

X Q. 349. You have business with those people all the time, haven't you?

A. Yes sir.

X Q. 350. Is that the only man you know in connection with the company as the active man?

A. He is the man that I do business with.

X Q. 351. But you don't know what his initials are, do you?

A. I don't remember them now.

X Q. 352. You think he is in Stockton?

A. I understood indirectly that he had moved from somewhere here in the City to Stockton. He used to live here in the City.

X Q. 353. Has the California Reduction Co. or Reclamation Co. any office in San Francisco?

A. I think they have. I think it is either in the Merchants Exchange or the—I think it is the Merchants Exchange; I am not sure. I think they have an office in Stockton on Main Street.

X Q. 354. You stated the parts of the canal which you did not include in your report. Your report does not include any of the personal property of the complainant, does it?

A. No, I have no knowledge of the personal property other than the telephone line.

X Q. 355. And you stated, I believe, that you had not included any of the land owned by complainant?

A. No sir, I have not.

X Q. 356. And you did not include any of the right of way?

A. Well, I didn't know of course, that they owned any land other than perhaps, some on which the headworks were situated.

X Q. 357. I am not asking you what you know. Why
1204 can't you answer my question? I asked you whether you included the right of way in your report?

A. That is what I answered.

X Q. 358. You did not, at any rate, include the right of way.

A. Neither land nor right of way, if you separate the two.

X Q. 359. Well, I do. You did not include in your valuation of the investment or anything of that kind, of the complainant, you did not include any amount for interest on the money invested while this canal was being completed and built—you did not include anything of that kind?

A. I did not.

X Q. 360. Or anything in the way of weirs used in the actual work of construction?

A. I did upon the main weir.

X Q. 361. Yes, I notice you did.

A. But I want to expain myself so that it will show in the record. For instance, it was found necessary to have a diverting weir and it took some time to construct that part of the canal. I made no allowance for the money invested in the weir or in any other part of the canal itself during construction.

X Q. 362. You have not made any attempt to make any allowance for the amount of money, if any, which the complainant would have to keep on hand in order to keep its business running, any funds that it would have to have for that time?

A. No sir, I have not.

X Q. 363. In valuing the canal structures, etc. you simply

used what you considered the cost of constructing them, or reconstructing them at the present time, less such deduction as you thought necessary on account of any depreciation that would take place in them to the present date, or to the time you figured, 1907?

A. Yes sir.

X Q. 364. And you did not consider one way or the other, any water rights that the canal company might own?

A. No sir.

X Q. 365. You did not take that into account in any way at all?

A. No sir.

X Q. 366. Neither did you include any especial value for
1205 any fences along the canal right of way?

A. No sir.

X Q. 367. Nor did you put any valuation on the road along the bank of the canal separately from the canal itself?

A. Well, of course I took the bank on which the road was placed.

X Q. 368. You took the cost of excavating the bank, of course?

A. Yes.

X Q. 369. And if there is any extra value in the road you did not include it in any way, did you?

A. No, I didn't include anything extra.

X Q. 370. On the second page of your report you have there "Gates and Spillway No. 1" and "Gates and Spillway No. 2." I do not find that they are included in your report.

A. Well, the book I had those in; I got it so badly wet and I didn't realize it, how much it was blurred, until I examined it and then I could not copy it the day I made the report, so I left it blank. That was the case between the two points, not adjacent to, but between the two points on the canal.

X Q. 371. A any rate, there are three in there?

A. I have forgotten. It would only be a guess at the present time, but I think there is one.

X Q. 372. At any rate, there are about three, are there not?

A. I don't recollect.

X Q. 373. At any rate, you know there are some there?

A. I know there was a structure there.

X Q. 374. You have omitted them?

A. Yes, I have omitted them in the report.

X Q. 375. Now your next item, "Gates and Spillway No. 3," you have five of them, 18 feet wide and 72 inches in depth and 24 inches in length. Now is it not a fact that the drops, the three drops in those spillways are 30 feet wide instead of 24 feet?

A. If there is an error I will have to look up the record.

X Q. 376. You don't remember?

A. No, I don't remember. There are so many of those
1206 things.

X Q. 377. Now on page 6, you have a headgate there which cost $734.50, and which you say has depreciated 60 per cent., but you carry out a depreciation of 661. What is the mathematics in that?

A. It looks as though the per cent had been in error in writing. I could not say whether it is an error in multiplication or an error in writing out the per cent.

X Q. 378. But it is certain that there is an error there?

A. There is an error there.

X Q. 379. Now in estimating the value of the structures I notice that you allow $25 a thousand for lumber?

A. Yes sir.

X Q. 380. I can't find that you make any variation in that throughout the report from one end to the other?

A. Well, I made that as an average of the pine and redwood together.

X Q. 381. In other words, you included redwood and pine, including rough lumber for bridges and battens and the finer timbers in the stop gates?

A. Yes sir.

X Q. 382. That includes stop gates and you only allow $25 altogether?

A. Well, I made that figure up as an average of the cost. Of course, you meant probably flash boards which run perhaps, a little over, and other average material would run materially lower.

X Q. 383. How much would your battens run?

A. I would have to look up to see just what I allowed for battens. I suppose battens run all the way from $26 to $28.

X Q. 384. You suppose so. What do you know about it?

A. That is my judgment.

X Q. 385. Did you purchase any?

A. I have purchased almost every year.

X Q. 386. Did you purchase any lumber in the San Joaquin valley in the year 1907?

A. Yes sir.

X Q. 387. What kind?

A. Oh, I think redwood and pine, both.

1207 X Q. 388. For what purposes?

A. For gate purposes and for a number of purposes. I got an estimate on it, and I got figures on lumber at that time; not in large quantities; not in extremely large quantities.

X Q. 389. Any redwood planking?

A. What kind?

X Q. 390. Any kind.

A. Yes, sir, 2-inch.

X Q. 391. What did you pay for it?

A. I think I had an estimate on a quantity at that time for about —something less than $24.

X Q. 392. I'm not asking you for an estimate. I am asking you what you actually got it for?

A. I don't recollect the price. I remember getting the estimate for a piece of work that I had got to do, that I had got to get the lumber for, and I went to the lumber company to see what they would furnish it for.

X Q. 393. Do you know what you bought?

A. Not off-handed, no. I don't recollect just what I bought or what I paid for it.

X Q. 394. Did you buy any lumber such as you would use in flash boards during the year 1907?

A. Yes sir. I bought some clear lumber in 1907, but not for flash board purposes. It was clear redwood, though it was used for different purposes.

X Q. 395. How much did you buy?

A. It was a limited quantity, I don't remember.

X Q. 396. How much did you pay for it?

A. About $27 or $28, I think, is my memory.

X Q. 397. Do you know who you got it from?

A. I don't remember now. I got some in Merced, and some in Stockton during that spring, then I bought some in Nevada.

X Q. 398. Did you buy any lumber in San Francisco?

A. No, not in San Francisco, no sir.

X Q. 399. Now in looking over your report you didn't allow for any freight on materials of any kind?

A. Any particular item of freight?

X Q. 400. Yes.

A. I included the item of freight in the value of lumber and the question of iron. In iron I figured everything above a 20-
1208 penny nail, and the percentage of the freight, those two together. With that item of iron I included everything, drift bolts and that class of iron, and everything above a 20-penny nail.

X Q. 401. On lumber you allowed nothing for freight at all?

A. Well, it is in the lumber. It is in the value of the lumber.

X Q. 402. In other words, you allowed $25 for the lumber at what place?

A. Delivered at the nearest point along the canal.

X Q. 403. You mean on the canal?

A. No, not on the canal.

X Q. 404. On the railroad?

A. On the railroad and also on the river.

X Q. 405. And your hauling, you didn't figure the actual hauling, but you simply allowed a flat rate for hauling to all points?

A. In each county I averaged as close as I could the average haul, in each county.

X Q. 406. Well, was there any difference in the counties?

A. No, I made it the same to the three counties.

X Q. 407. So you simply allowed a flat amount of $3 for hauling, without figuring the particular distances that you would have to haul for each structure?

A. Well, I made an average, a basis on which I thought I could figure that the lumber could be hauled for, on an average. Some of it is very close to the railroad track, and in other cases it is some distance away.

X Q. 408. Well now, you have charged the same amount for lumber at each point along the railroad, although you know that there

is a wide difference between the freight charges in different points along through those three counties, is there not?

A. In large shipments it is reduced. I have forgotten just what the difference is. There is not such an awful difference. I took an average of the three counties.

X Q. 409. How far would you have to haul the lumber for the headworks?

A. Oh, a couple of miles.

X Q. 410. A couple of miles?

A. If you take it from the railroad; but if you take it
1209 from the river during the spring, it can be taken up the river by barges and then you could land it right by your work.

X Q. 411. There is no freight to any extent hauled up the river as a matter of fact, is there?

A. Not nowadays. In previous years they always used the river, but I think the last lumber was taken up the river some 5 or 6 years ago.

X Q. 412. You consider yourself an engineer rather than a builder, don't you?

A. Well, I do construction work as well as designing. I have built headgates and dams and weirs, and that class of structures that are generally used in canal construction; sewers and electric light plants.

X Q. 413. Referring to some of these particular structures, take that structure on page 7 of your report at Station 0 plus 30.

A. Yes sir.

X Q. 414. You recognize that structure, do you?

A. Well, that is a new headgate recently built.

X Q. 415. And do you know when it was built?

A. Well, I was not positive in my mind, but I was thinking it was in the fall of 1907, late in the fall.

X Q. 416. That was your idea?

A. That was my memory of it. But I would have to look it up from data. I think, however, at the end of the fall it was being built.

X Q. 417. And you were trying to get the value of it at what time?

A. Well, I figured at that time, at the time it was being built.

X Q. 418. Now didn't you testify here, and is it not the fact that you were directed to fix the valuation on these properties for June and July of 1907?

A. Well, I understood that it was built in that time. I called attention to that special case.

X Q. 419. I am not asking you about that. I am asking you if you were not directed to find the value of these properties as of the 1st of July, 1907?

A. I understood that that was to be included there, or I
1210 would not have put it in. I thought that all that was correct.

X Q. 420. You knew that that was not there on the 1st of July, 1907, still you put it in there?

A. Sure enough, I put it in the report.

Mr. LANGHORNE: We object to that. Counsel has not been hurt by his putting it in.

Mr. TREADWELL: We are not asking any favors from anybody.

The WITNESS: The reason I put it in was that if I went away and didn't take it, I understood I would have to return again. I was in doubt whether I should go in or not.

X Q. 421. Now, what length of time or what date were you valuing that work for?

A. Well, I figure that as soon as it was constructed the valuation of it decreased 10 per cent.

X Q. 422. In other words, you figured that the minute it was constructed it had depreciated 10 per cent?

A. That is the basis placed on all structures.

X Q. 423. That is the basis placed on all structures?

A. It might run along a number of years and not depreciate any more. You would have to consider the liability, for instance, of a new gate the first time the water was turned against it, it might raise and get out of level.

X Q. 424. It might do most anything, but I am asking about what is the fact. You say you calculate this depreciation, simply because it was built, and immediately upon its being built it falls 10 per cent less than the cost of its construction?

A. That is where the general depreciation in a structure commences, that it depreciates in proportion to its life.

X Q. 425. Now what length of life do you give to those structures in fixing the rate of depreciation?

A. Well, of course I figured the average life of wooden structures in that part of the country I know to be very long, and in other parts I know to be very short. I know some structures that
1211 are 12 or 14 years old. I know one structure that is 22 years old in that country, that I had occasion to take out, and I found the foundation of it in good condition, although the upper part of it and everything except the foundation timbers were decayed. Now, I think that comparison allows 15 years for a structure, and if there is anything left other than that part of the foundation of it that is submerged in the water, provided the structure is submerged, its value is not over from 10 to 20 per cent. Of course, it depends upon the material of the structure put in it. There are a good many things that will decrease the valuation of a structure. You can put a structure in, and if it is not properly built, the first time water stands against it it will get out of position, and if the foundation moves it will move the structure, and the structure is liable to break. It has deteriorated in value at once.

X Q. 426. Of course there are cases of that kind. As I understand you, you think that the superstructure would last 15 years?

A. I think the average in that country would be 15 years if there was no special wear on it, and where it meets with no accident, or

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no unusual wear. Certain timbers will not last that long. For instance, if a structure is under sized in its timbers, why, just as soon as the timber rots away it is very apt to break and cave in. Still, if you put in a very much larger timber, while it would not increase the cost of it materially, it might increase the length of its life.

X Q. 427. I am trying to find what your idea is as to what the average life would be of a superstructure?

A. I think the average would be 15 years in that part of the country.

X Q. 428. Now what is your estimate of the life of a substructure?

A. Well, the life of some substructures might be indefinite. It depends upon the value of the substructure for the purpose of
1212 rebuilding it. If a substructure is just the thing that you would require in rebuilding a new structure, and had not deteriorated, it would be practically of the same value as when it was put in.

X Q. 429. You are taking into consideration all those facts? Now taking into consideration your knowledge of the use that can be made of the substructure, what would you say would be a pretty fair estimate as to the life of the entire structure?

A. Well, of course if the substructure was identical with the one that you would wish to replace why, I think that the substructure might go on indefinitely, as the life of a superstructure might depend upon the quality of the particular wood that went into that particular structure. In the valuation of a structure you could not, perhaps, figure out right by years, by which it would deteriorate. One structure having been put in 10 or 12 years might be almost as good as new, or nearly so, while another one being in but a very few years might have rotted away, simply owing to the quality of the wood. That frequently and commonly happens.

X Q. 430. Could you state what proportion of these structures generally could be considered as having this long lease of life, that is, what proportion of the structure generally, the substructure and the superstructure?

A. Of course, if a structure is kept well covered it will last for many years, and that might be the case with side boxes. There are other cases where the side box will not last very many years, owing to the position of it.

X Q. 431. Is half of the structure a substructure?

A. No, I should say not.

X Q. 432. Is a third of it?

A. No, I don't think there is a third of it that would be of value at that length of time.

X Q. 433. Now, on page 9 at Station 252 plus 73, do you remember that bridge?

A. The Helm Canal?

X Q. 434. Yes.

A. Yes sir.

1213 X Q. 435. Do you know when that was built?

A. I do not. Of course, it is just a matter of memory. I think the first bridge that was there was removed, and the second

bridge put in at the time of the dredging. I may be mistaken as to that.

X Q. 436. When do you think that was put in?

A. Well, I might say when the dredging was done, in 1901, I think.

X Q. 437. And it has only depreciated 10 per cent?

A. That was my judgment of the bridge.

X Q. 438. Eight years after, and it has only depreciated 10 per cent?

A. It might be 8 years old. I don't say positively. That was just a matter of memory. The bridge was in good condition as far as I could see. There is no use of depreciating it if it was in good condition.

X Q. 439. But you did depreciate it 10 per cent?

A. Yes.

X Q. 440. You thought it was at least that far gone a couple of years ago?

A. Well, it seemed to me that there was very little travel on it.

X Q. 441. You figured that up to June 1907?

A. Yes; I thought it was in very good condition. Of course, I could not speak of details from memory, there are too many of them. But I thought that bridge was in good condition.

X Q. 442. Obviously you thought that 10 per cent reduction was enough?

A. If there had been no error in copying, I think that is right.

X Q. 443. And on page 11, at Station 334 plus 98, have you got any way of checking that up—do you remember that bridge?

A. Of course without looking it up—I think that is on the road running out south from Firebaugh's.

X Q. 444. I think so.

A. 30 per cent depreciation

X Q. 445. You don't remember how old you considered that bridge to be?

A. I do not. The age of it would not altogether regulate the depreciation. I don't remember. It was not a bad bridge.

X Q. 446. Now on page 14, there are two weirs on that page. As I understand it, you have not got with you the items of anything in connection with those, anything more than there is in this report?

1214

A. No, I have not.

X Q. 447. Have you got anything in your books or notes, anything more than there is there?

A. No. I settled in my mind as to what the depreciation of the value of the structure is, and marked the per cent.

X Q. 448. You didn't make any drawing of it, or anything of that kind, as you examined them?

A. No.

X Q. 449. You made your estimate right on the ground?

A. No, I didn't make any estimate on the ground. I made my estimate of depreciation, and I took the width and the depth and the length.

X Q. 450. How did you get the substance, the material that was in it?

A. Well, I took a record of the thickness of the walls and the general form of the posts.

X Q. 451. Did you take notes there at that time as to the size?

A. As to the size of the weir?

X Q. 452. Yes.

A. I told you yes, certainly.

X Q. 453. But nothing else—you did not absolutely measure the lumber in it?

A. No, I measured nothing but the dimensions of the general structure.

X Q. 454. Now you remember those two weirs, do you, where they are?

A. Well, off-handed, perhaps, of course——

X Q. 455. Those are the two, are they not, at the head of the parallel canals?

A. Well, I would not say positively, but that is my impression.

X Q. 456. You remember those two weirs, do you?

A. At the head of the parallel canal?

X Q. 457. Yes.

A. Yes sir.

X Q. 458. You have them well in your mind?

A. Well, no. I have not got them well in my mind. There are too many of them to keep them all in my mind. I have seen
1215 them a number of times.

X Q. 459. Do you remember the condition of them?

A. Off-handed it would be a vague recollection. Nothing that I charged my memory with. It would not be of any value. I have no special memory of them any more than I have passed them a great many times, and I remember that they were old structures.

X Q. 460. How old would you say they were?

A. It seems to me they have been there ever since my knowledge of the canal.

X Q. 461. That is the way it looked to you?

A. That is my memory.

X Q. 462. And they had depreciated 80 per cent?

A. Yes sir.

(Further hearing adjourned until Monday, March 8, 1909, at 10 A. M.)

1216 MONDAY, *March* 8, 1909—at 10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of H. H. HENDERSON resumed.

By Mr. TREADWELL:

X Q. 463. At the top of page 7 of your report, at Station 6000

plus 30, is a headgate. Do your notes show any piling in connection with that headgate?

A. You mean the side piling?

X Q. 464. Yes, or bulk-head piling.

A. The notes do not show any piling in connection with it.

X Q. 465. Is there any piling in connection with that headgate?

A. Well of course, I don't think that I allowed for piling underneath the foundation.

X Q. 466. But there may be piling in the foundation of that structure then, which you did not allow for in your estimate?

A. Well, I allowed for a method which would construct the gate. Of course, an engineer examining a gate which is already constructed, it is impossible to tell whether the party in constructing that gate used the piling or simply dug trenches and put in the foundation in that form. So on gates of that size, why, I allowed for a certain depth of foundation which I considered just equivalent to piling, which gives just about practically the same in all structures, for that matter, the part that is submerged under water. If submerged under water or underground no one can reach it without making an examination by taking it out, which is impossible in the case of this work.

X Q. 467. It is impossible then, by simply examining it, the way you did, to determine what, as a matter of fact, has been
1217 used in making the foundation?

A. What class of foundation is put in, it is impossible to tell.

X Q. 468. Now as to whether piling will be used or not, depends on what considerations?

A. Whether it will be used or not?

X Q. 469. Yes.

A. There are two. Of course, assuming that engineering is an exact science, why, it is a personal equation with the engineer. Otherwise than that, if the foundation required piling in any conditions except certain specified ones, why, then there would be piling. But frequently an engineer will build a gate without piling, while another one will build the same gate under the same conditions with piling. It is a personal equation with the engineer a great many times. Frequently the engineer is able to build without piling as substantially as one is with piling.

X Q. 470. There are cases, I take it, where the physical conditions are such, or the strain is such on that gate, that it is almost necessary to use piling in the construction, is it not?

A. Well, there are many cases where it is by far the best plan to use piling.

X Q. 471. Now do you know, or do your notes show what depth you did allow for the substructure of that particular head gate?

A. No, I would not know now. I think though, that on the main gates in the upper part, I think I allowed in the main canal 12 feet; that is, that I allowed 12 feet below the bottom of the structure.

X Q. 472. And in other canals?

A. Well, below that we allowed according to the size of it. If

they were in sloughs, why I frequently ran as deep as 12, and in the main canal I think my calculation calls for 6 feet below the bottom of the structure.

X Q. 473. Do you know which head this would likely come under?

1218 A. Why, it is under here. I presume that I allowed for at least 12 feet.

X Q. 474. Have you any notes on that particular headgate?

A. Of my allowance here?

X Q. 475. Yes.

A. No, I have not.

X Q. 476. What notes did you have in the field of that particular headgate? What notes did you make in the field?

A. I took the length of the wings, the width of the abutment of the gate, the width of the gate, the floor, and the general size of the timbers.

X Q. 477. Well, where are your notes?

A. Some of them are here in San Francisco, some of them down in Stockton.

X Q. 478. What have you got here in court today?

A. I have the record——

X Q. 479. I mean, of that headgate.

A. Of this headgate?

X Q. 480. Yes sir.

A. I think I have part of the field notes. I am not positive. Do you want me to read what notes I have here with me?

X Q. 481. Yes, just read them.

A. Station 0 plus 30, the Weir—after that is written "New" 10 per cent. Width of abutment, 30 feet. Depth of gate 12 feet, floor, upper.—which is understood in my notes—4 feet 6. Width of canal or width of gate, which is equivalent, 50 feet. Wings, 6 by 8, space 30 inches. Gate posts 10 by 10, nine bents, braces, 6 by 10; three posts, each bent visible. Flash boards 2-inch. That is all the notes that I have here.

X Q. 482. So your notes show nothing specific in regard to the depth of the foundation?

A. There is no way possible of getting at that. No one can tell that, without digging out the box. It could not be done.

X Q. 483. Now in regard to excavating this canal, Mr. Henderson, what is the ordinary inside slope of these canals?

A. Taking a 40-foot bottom of this particular system?

X Q. 484. Yes. But I will ask you this: What would be

1219 the proper slope of a canal with a 40-foot bottom, the inside slope?

A. Of course, that would entirely depend on the character of the soil. Some soil will stand at a great deal steeper angle of repose than other soils. It depends upon the conditions; also in a sandy soil, upon the quality of the sand. Three to one, frequently. And from that it digresses to almost vertical, still, dependent upon the character of the soil.

X Q. 485. To take these canals now through the soil that they are run through, what would be the average inside slope?

A. Oh, I should think 2 to 1 would be sufficient. I think the upper part of the canal is standing in a great many places at a much steeper slope than that.

X Q. 486. What is the ordinary outside wall? What should it be in canals running through that kind of a country?

A. Well, the outside wall is frequently given 1 to 1. I vary those conditions according to the material that we have to move. It is a question of location. But one to one is the steepest, and 1 to 1½ is sufficient.

X Q. 487. 1 to 1½?

A. Yes, for the outside slope.

X Q. 488. Now, in order to have a canal constructed so that it will hold water, carry water, and will stand the pressure of the water in fair shape, what is the ordinary width of the bank, take the upper bank, for instance?

A. Well, on a canal—on the canal you are speaking of, 30 to 40 feet wide?

X Q. 489. Well, take a 40 foot canal.

A. Well, there is a good deal to be considered in a design of a canal of that kind. One point is the character of the soil which you go through. Of course, the way you put the question is not always the issue in designing canals. A great many engineers desire to place the bulk of the water below the surface, and a great many excavate more dirt out of the cut in order to place the water below the surface of the ground. They give that more consideration than
1220 the width of the banks. In that case it invariably makes a bigger bank than is required. But of course, it depends entirely upon the position of the upper surface of your water with relation to the average elevation of the ground. But I have always followed the practice, where the water is about 2 feet and a half above the ground, why, in a canal of that size and of equal velocity I generally allow a 5 foot top.

X Q. 490. At any rate, 4 feet would be the minimum, I suppose?

A. Oh, no, I have seen them sometimes smaller than that. It depends. It is subject to the engineer. I have seen cases where it is only 3 feet or 2 feet and a half; hardly sufficient room for one horse to travel on top.

X Q. 491. This would be the average amount, that is, 5 feet?

A. That is my practice.

X Q. 492. Now, if the lower bank is to be used for a wagon road in connection with the canal, what width of top do you generally allow for that bank?

A. Well, I never make them less than 10 feet, where a special bank has to be constructed for wagon road purposes. My recollection is that 10 feet would be an average. Of course, in extreme fills I might have to reduce it in some cases. I could not call to memory all of the instances, but I should think that 10 feet would be about an average.

X Q. 493. In excavating a canal, Mr. Henderson, of course if it

could be conceived of a canal running through an absolutely level plain, the amount of the earth in the banks, after allowing for the proper shrinkage, would exactly equal the amount of the excavation?

A. Well, of course you have incorporated the term "After allowing for the proper shrinkage." It would depend entirely upon the soil, upon the silt, whether there should be a shrinkage at all; it might be the reverse, which is very frequent. In that case, the banks would show larger than we——

X Q. 494. Of course, if the conditions were such that no shrinkage should be allowed, then there would be no proper shrinkage in the meaning of my question.

1221

A. Well, if there would be no shrinkage, and if the ground did not swell by excavation, then the banks would equal the cut; that is, the contents of the banks would equal the cut.

X Q. 495. Is the amount of the excavation in a canal ever less than the amount of earth in the bank, or would the amount of earth in the banks always represent at least the minimum amount of excavation?

A. That would entirely depend upon whether the dirt was spread, or not. If the dirt, after being excavated from the cut—or we will assume, for instance, that it was what is generally considered a cut, that is, a cut deeper than the average excavation made for the ditch. In that case, frequently the dirt is either carried forward, if the ground is rough, and placed in the next fill ahead, or it is spread if the country is such that it warrants the expenditure, spread upon the ground evenly, adjacent to the canal or in low places, or it is left in waste dumps. Of course, where the soil is not of the highest order, the common practice is to leave it in the banks.

X Q. 496. But of course if the earth is thrown up on the banks, the minimum amount of excavation will be the earth that is thrown up on the banks?

A. I don't quite understand your question.

X Q. 497. What I am trying to get at, Mr. Henderson—and I don't think I expressed myself very well—but what I mean is, if you wish to construct a canal of a given cross section, and so as to carry a certain amount of water under the best circumstances of condition of country through which you are to pass, the amount of the banks will be the same as the amount of the excavation, after allowing for shrinkage?

A. Yes sir, and after allowing for fluctuation through shrinkage or otherwise.

X Q. 498. If you could find a canal that would carry the quantity of water that you had designed it to carry and which had through its entire length its uniform cross section, and you found the banks to exactly equal the excavation, then you would say that that was a canal which might be called an ideal canal, constructed under ideal conditions and with the minimum amount of excavation?

1222

A. Well, yes; of course, I see the point that you wish to bring forth, and that is, if from an economical point of engineering the country was such that the engineer in designing his canal would

design a cut just sufficiently deep to construct the banks of the canal, then I think it would be said that the minimum amount of dirt in that case would be handled. Of course, there are conditions. It would depend a great deal upon where the upper surface, the upper grade line of the water was to be. If it was to be close to the top of the bank, a broader bank would be necessary in order to insure safety to the canal.

X Q. 499. Now one more question, Mr. Henderson. In regard to the use of excavators such as you have described, in the building of a canal, will you explain to the court how those excavators transfer the earth from the place where it is excavated on to the bank?

A. There are two forms of excavator. One is with the ordinary plow and the other is with a rolling disc, which removes the earth in a furrow form and drops it upon a draper, a heavy draper constructed of rubber, a rubber draper, and this draper is made in sections so that it can be made longer or shorter and the dirt is then transferred by this draper process to the banks.

X Q. 500. Now what distance will that carry the earth from the place where it is excavated?

A. The greatest distance?

X Q. 501. Yes, put it that way, if you want to.

A. I should think about 28 feet is about the average maximum.

X Q. 502. That is about as high a distance as you know, about as great a distance?

1223 A. In extreme cases, more; but I think that is an average.

X Q. 503. Have you actually seen any machine that will deposit the dirt that far, Mr. Henderson, in operation?

A. It is my memory that I saw one that carried it farther than that. Of course, this machine that I saw that carried it farther than that was counterpoised by weights being put on the opposite side of the machine so as to support the draper on the opposite side; but I suppose taking one side of the machine, you might term the maximum from 18 to 28.

X Q. 504. What is the greatest that you ever saw it deposited?

A. I think the one that was fitted up for some work that I took hold of at one time, I think the extra lengths made it about 28 feet from the plow, the furrow line.

X Q. 505. How did you weight it as it travelled?

A. Well, my recollection is that there was just simply the regular frame of the excavator, and we bolted some timbers on which projected out from the plow and upon which we placed sacks of dirt.

X Q. 506. Do you know of any machine which is constructed without any artificial arrangement of that kind, that will actually support an arrangement that will deposit the earth as far as 28 feet from the place where it is ploughed?

A. Well, of course I think that you can get those machines built to suit you, and I think that they——

X Q. 507. Whether they will work or not?

A. Oh, they are satisfactory. There is no question about that part of it.

X Q. 508. Now on the one that you say you use this counterpoise where did you use that?

A. On the Crocker system in Merced.

X Q. 509. How much did you excavate with that?

A. I could not tell. It ran for a long time, but that extra length was just specially put on. Although in this work which I have spoken of here, the extreme conditions were not required.

X Q. 510. What is the ordinary machine that is on the market arranged to do in regard to the distance that it will deposit the earth?

A. With the first extension?

1224 X Q. 511. Yes.

A. I think the first extension is—I have forgotten positively, but I think about 22 feet, I don't recollect.

X Q. 512. Do you know the name of any machine that goes as high as 22 feet?

A. I would not say that positively, as to any of them. Those are matters that can be adjusted. It is simply an extension of the belting.

X Q. 513. What have you in mind that runs as high as that?

A. I did not say positively; I said to the best of my memory about 22 feet. I have known them, but I don't recollect.

X Q. 514. What particular machine have you in mind?

A. Well, the Era grader carries in the neighborhood of that, I think, taking it from the plow line.

X Q. 515. Now in figuring out the scheme that you explained to the court by excavating these canals by means of first using the excavator to build the upper bank, then using the excavator to build the shells, so to speak, of the lower bank, and then using the dredger to take out the core and deposit it between these two sides of the outside bank, did you compute the relative amount of earth that would be removed by the excavators and by the dredger?

A. Well, you misstated my principle of doing the work. You assume that the canal is being built on the side of the hill, that there is only one shell. If you build a canal like the main canal, where the earth on either side of the canal is nearly on the same elevation, a shell is necessary there in case of all banks.

X Q. 516. The upper bank as well as the lower one?

A. Yes, sir.

X Q. 517. I understood you—I may be entirely mistaken, but I understood you to say that you built the upper bank complete with the excavator.

A. No, that was not my intention to explain it that way. It would depend upon conditions.

X Q. 518. Is not that what you said you would do?

A. No, not intentionally. I don't recollect of saying it.

1225 X Q. 519. You intended to build them both with the shell? That is, of course, except in places where you would be against the side of the mountain, where you didn't need any bank.

A. In a case of that kind, why there might be only one side of the elevation constructed.

X Q. 520. Then as I understand it now, no matter what you may

have said before, your scheme actually contemplated in most cases building the shell of the bank on each side and filling it up with the dredger?

A. Wherever it was required.

X Q. 521. I may have misunderstood you on that particular subject, Mr. Henderson, but that would only accentuate or exaggerate the point that I am trying to bring out. I have asked you a question, however, and I have not got an answer. I asked you what would be the relative amount that you figured the earth that would be removed by the excavator and the amount that would be removed by the dredger in that work?

A. Well, I figured with the ordinary excavator work itself, in my experience, which has been both recently and previously—of course, when I say recently I mean within the last 6 or 8 months, that we ought to handle even the dirt itself below the estimated cost. But I figured——

X Q. 522. I didn't say anything about the estimated cost. I don't care whether it has cost $1000 or $2000, as far as this question is concerned.

A. I misunderstood the question, then.

(X Q. 521 read.)

—well, I figured on a large canal, and my recollection now is—I made some rough sketches of it and I figured that as near as my memory goes, the dredger would do about three-quarters more work than that done by the excavator. And also I figured that certain features of it would have to be handled with a scraper.

X Q. 523. Now I have prepared here, Mr. Henderson, a sketch which is headed, "Ideal Cross Section of a 40-foot Canal 8 feet deep," my meaning of that being that it would be only constructed under these ideal conditions when the banks and the excavation would exactly equal each other. Now it is constructed with an inside slope of 2 to 1, which is, I believe, exactly in accordance with your testimony as to what the inside slope should be on each side. On the upper bank it allows a top, a width of 4.20, your estimate and your testimony being substantially 5 feet; but it allows a slope on the outside bank of 1½ to 1, which if I remember rightly, was pretty close your estimate; possibly the same. On the outside bank it allows the same slope, and 10½ feet deep, your estimate I believe, being 10 feet, in order to have a roadway. Now the two items of 62 and 76 square feet are the calculations of the amount of earth which would have to be removed from that point in order to make the proper bank provided you made it with the excavator. The two items of 75 and 32 refer to the amount of earth that it would be necessary to remove with the excavator in order to construct your shell; and the 18.37 cubic feet would represent the remainder which you could remove according to this calculation with the dredger. Now you will note that in order to build this upper bank it would require a machine that would deposit something in the neighborhood of 29.39 feet, and in order to build the other shell it would require 33.14 feet, the dotted lines through the banks represent the condition after the shrinkage. Now in order

1226

to construct those shells and this upper bank, would not that represent just exactly what you would have to do with your excavator?

A. Oh, no, that was not my idea at all. It is drawn up to fit conditions as if I had finished the work with the excavator.

X Q. 524. Well, the location of the outside shell would be in that place, would it not?

A. Yes. It would depend, of course, figuring on this for a forty foot cross section?

X Q. 525. Yes.

A. Yes, only I might entirely vary it from the slope that you got. I don't know as I would be particular about the slope.

1227 I didn't say in my testimony that I would construct a two-to-one slope on a proposition of that kind with an excavator. It is not necessary to do it. After the dirt has been once deposited the slope can be brought to such a pitch as to suit you by an ordinary earth grader.

X Q. 526. Well, what I am calling the apex of your shells would be in a particular place, would they not, where they would ultimately be the outsides of your 10-foot roadway, so that you could fill in with your dredger, would they not?

A. Well, it might be a case of economy. Now of course that is designed as though a person was going to an expensive method by ordinary scraper. Now, if you were to move that dirt and were to move it by the expensive method that you illustrate, the method that you illustrate is what would have to be done. On the other hand, dumping with a grader, the bank never takes a two-to-one slope.

X Q. 527. You have to do with dry ground, do you, in order to get the slope?

A. I didn't state that.

X Q. 528. How do you get the slope?

A. I finish the slope afterwards, and I am not so particular about the slope because I can move the levee back sufficiently so as to let the slope form itself with the action of the water, which is always the result in any canal. You can design a slope to a certain angle, and eventually the water will fix that slope to suit the conditions. Now, for instance, to illustrate that point: if you have a sandy canal and you put a one-to-one slope, or even steeper—just the steepest that sand will stand, after the water has run awhile it will go down to a one-third slope. Now in this case my idea was just to simply build as vertical banks as possible, along the border, depending of course, on the depth of the section, and sufficient width to put in a quantity of dirt.

X Q. 529. Then you would let the water come in and make the slope?

A. Well, not necessarily so. A person could average it

1228 up with a machine.

X Q. 530. I want to know what you would do. You say that the water will do it. Is that your idea? To leave it for the water, and that the water will do it?

A. My idea is to finish it where it requires finishing; because it is the practice in certain banks to make a two-to-one slope. That two-to-one slope is the one that I would build.

X Q. 531. In building your canal would you not try to adopt a slope which under all the conditions required would cause as little washing as possible

A. That would depend entirely upon the cost of moving the material.

X Q. 532. If you leave your slope so that it washes away by the action of the water, does not that which washes away deposit upon the bottom of the canal?

A. That is true enough, but even then it might be cheaper to put it on the bottom of the canal. There might be cases of that kind.

Mr. TREADWELL: Now in connection with the testimony of this witness and simply for the purpose of illustrating what these questions are directed to, I ask that this be introduced in evidence, and marked "Complainant's Exhibit No. 30."

Mr. LANGHORNE: I object to that as incompetent, irrelevant and immaterial, on the ground that it is not made in accordance with the witness's testimony, because it only shows one shell of the bank in the method of construction.

The MASTER: I overrule the objection.

(Marked "Complainant's Exhibit No. 30.")

(By Mr. TREADWELL:)

X Q. 533. Now referring to your outside slope, you stated that it would be one to one and a half. That is, you mean 1½ horizontal by 1 vertical?

A. Yes.

X Q. 534. Now, in regard to the use of an excavator such as you have explained, in preference to the scraper method of building a canal by scraping up onto the banks, you compact the banks, a great deal, do you not, Mr. Henderson?

A. Yes sir.

1229 X Q. 535. Is the mere excavator method—will that make a bank which is strong enough, or compact enough, or smooth enough to hold water, or will it require additional work?

A. I have made miles of canal. I remember one instance of making about 17 or 18 miles at one stretch with about a 16-foot bottom. That is my memory of it. And the only scraping that would be used on the whole distance would be a little piece that would have to be passed up with scrapers.

X Q. 536. You don't seem to understand the question.

(Question read.)

A. Well, of course, yes, it would hold water. That would depend, of course, on the height of the water that was to be put against the inside of it. If the water was just simply to go a foot or two against the banks of the levee, or if it were four or five feet high, of course it would. Of course it would settle.

X Q. 537. Would you not do some work on it to compact it besides simply throwing it up with your excavator?

A. After finishing the work with the scraper, I would level the tops of the banks off with an ordinary grader by going over it a couple of times.

X Q. 538. You found that necessary, didn't you?

A. Well, I have done it. In many instances I have not done it. It is not necessary.

X Q. 539. Now do you know the amount that in railroad construction is allowed for shrinkage where a scraper is used on dry ground, not affected by the water at all?

A. An embankment?

X Q. 540. Yes.

A. Well, 10 per cent is more than the average. Do you mean in the entire contents of the bank? Of course, you didn't state it. Do you mean the shrinkage from the height down, in the height, or do you mean the cubical contents?

X Q. 541. The cubical contents, I think you figured it.

A. Yes, I did in some instances.

X Q. 542. Do you say that in railroad construction less
1230 than 10 per cent is allowed for shrinkage in any case?

A. It would depend upon the material. I would not say with regard to railroad work specially.

X Q. 543. Do you know anything about it?

A. I never did any railroad work, no sir, except just minor work.

X Q. 544. But you do know that where water is standing against the bank, that there will be a greater shrinkage in the bank than if no water was standing against it, such as the railroad?

A. Well no, your statement is not true. There are certain soils that if you wet the soil it will expand, it will increase in size, regardless of whether it has been tamped or rolled, or how it has been treated. In fact, it takes up enough water to expand it. And frequently those soils are very tight soils, and when they are loose they shrink very materially.

X Q. 545. And taking this canal on an average, would you say that the banks would shrink more or less by reason of having water up against them, namely, on both sides in place of on one side?

A. Oh, I think that on an average, having had the presence of water close to them, I should think that they probably would settle more than the average conditions without the water.

X Q. 546. You stated, Mr. Henderson, that you did not know of any other source than the canal system of complainant by which the greater part of the land irrigated from that system could be irrigated, that is, with the exception of some of the land, maybe, along the river.

A. Under the present conditions, yes.

X Q. 547. It would be perfectly feasible, as an engineering problem, of course, to take a new canal out of the San Joaquin river there, above the weir of the complainant, or below it, and run it through a territory near the canals of complainant, so as to bring the same land under the canal that I am speaking of? That would be entirely feasible, would it not?

A. Yes sir.

1231 Mr. LANGHORNE: You mean, to build the canal?

Mr. TREADWELL: Yes, as an engineering problem.

X Q. 548. Do you know, or can you give the accurate sum or an

approximate idea of the acreage of land that is in fact irrigated by waters of the San Joaquin river by the complainant and by other waters of that river, just in a rough way, as near as you can—that is, the relative amount of land irrigated by the complainant with waters of the river and the amount irrigated by other people, not by means of the complainant's canal?—That is what I mean to ask.

A. Well, off-hand I would make an estimate of at least in the neighborhood of 230,000 acres. In that I include the different irrigation methods that are in vogue, including wild grass irrigation by means of high water irrigation. This is simply a rough estimate.

X Q. 549. Roughly, you think there would be about 230,000 acres probably irrigated by the waters of the San Joaquin river other than lands irrigated by the complainant's canals?

A. Including that.

X Q. 550. The record shows between 80,000 and 100,000 by the canal. Now, some of that water which is used by persons other than the complainant is used by virtue of appropriation and some of it by virtue of riparian claims?

A. Yes sir.

X Q. 551. Among those appropriations is the appropriation by the Eastside Canal & Irrigation Co.?

A. Yes, sir.

X Q. 552. And the Chowchilla Canal?

A. Yes sir.

X Q. 553. And possibly the Alise Canal, and possibly other canals of Miller & Lux would be included among those, to a certain extent?

A. Well, the Blythe canal.

X Q. 554. There are also claims of appropriation which have not been entirely perfected, possibly, by the Enterprise canal, the James Canal Co.?

A. I did not include the Enterprise.

X Q. 555. Now after constructing the supposed canal which I referred to sufficient to divert water from the San Joaquin river to irrigate these lands, do you know what amount such a company, if formed for the purpose of constructing such canals, could

1232 acquire the right to divert, we will say, the next 760 feet of the San Joaquin river immediately after the claim of the complainant here? What would it have to pay for that amount, in your judgment, if it could acquire the right to make that diversion?

A. Well, in answering that question—first, it is impossible to answer it just exactly as it is asked, although I will endeavor to answer it just as it reads; as I really do not believe that the first 120 feet above the first 760 feet could be acquired.

X Q. 556. That 120 feet that you refer to is the appropriation made by the Chowchilla canal?

A. Yes sir. I suppose that every foot beyond that that it did acquire would cost them in the neighborhood of not less than $3000 a cubic foot, if it could be purchased.

X Q. 557. The Chowchilla canal—I believe you know the facts, Mr. Henderson, and hence counsel will have no objection to my

stating my idea of them—is owned one-half by Miller & Lux and one-half by the California Pastoral & Agricultural Co.?

A. Yes sir, I understand that to be the case.

X Q. 558. And Miller & Lux is using that water appropriated by and through the Chowchilla canal for its own private uses?

A. Using its part of it, yes.

X Q. 559. And the California Pastoral & Agricultural Co. is using its part of it for its own private uses?

A. Yes sir.

X Q. 560. No one of the owners of the Chowchilla canal has ever dedicated that appropriation to the public in any way, or sold indiscriminately to anybody that asked for it, or anything of that kind? It was simply a private purpose, so far as you know?

A. Practically so.

X Q. 561. When you say that it could not be acquired, what do you mean, that the parties would not want to sell?

A. That is what I meant. I meant that I did not think it could be purchased or condemned.

X Q. 562. But if it were condemned, if the law would per-
1233 mit it to be condemned, would you say that more or less than $3000 a foot would have to be paid for that 120 feet?

A. Well, if it could be condemned, I think—I would not say in regard to Miller & Lux's but I would say in regard to the half belonging to the California Pastoral & Agricultural Co., that they would suffere a loss greater than $3000 a cubic foot.

X Q. 563. Because their land is largely removed from the river?

A. Yes sir.

X Q. 564. Referring to your testimony, Mr. Henderson, wherein you stated that if 1300 feet of water were diverted into the canals of complainant, that that water could be used to irrigate, and could irrigate something in the neighborhood of 260,000 acres of land, I will ask you if you were a witness in a case entitled Elizabeth Turner as Administratrix, and the Las Animas & San Joaquin Land Co., Complainants, against the Eastside Canal & Irrigation Co., Defendant, in the Superior Court of Merced County?

A. Yes. I think the title of the case was that.

X Q. 565. Have you ever been in the employ of the Eastside Canal & Irrigation Co.?

A. Yes sir.

X Q. 566. When were you first employed by that company?

A. I could not off-handedly say, now. It is many years ago.

X Q. 567. About what year?

A. Well, it would run back along close to 1900; just prior to or just about 1900. That is my memory.

X Q. 568. Now you have also been employed by J. J. Stevinson?

A. No, just for the Canal company.

X Q. 569. That is the company the stock of which was owned by J. J. Stevinson?

A. Yes sir.

X Q. 570. And he was president of it during his lifetime?

A. Yes sir.

X Q. 571. And what was the general work that you was employed on in connection with that company?

1234 A. Well, estimating the discharge of their canal, making typographical maps, estimating the seepage, making evaporation tests; such work connected with it that would come up in that class; some estimating in regard to cost, too.

X Q. 572. You also were employed by them for the purpose of taking measurements both of the flow of the San Joaquin river and of the various sloughs and canals through which Miller & Lux and the complainant here diverted water from the San Joaquin river?

A. Yes sir.

X Q. 573. Ever since that time you have been continuously engaged in that business?

A. Oh, no, not continuously, no. Not since 1900; on and off.

X Q. 574. On and off. In every year, at any rate, you have done some work of that kind?

A. I think so. Probably it would average every year, or nearly so.

X Q. 575. You have had gauges set in the San Joaquin river, and have made measurements of the diversions by Miller & Lux of the complainant, and have also had assistance there in doing that kind of work?

A. Yes sir.

X Q. 576. You know that there are suits pending between that company and Miller & Lux, and the complainant here, in regard to water rights on the San Joaquin river?

A. I understand that to be the case.

X Q. 577. And you have done work in the way of making these measurements and cross sections and surveys for the purpose of their being used in those cases, have you not?

A. Yes sir.

X Q. 578. In the particular case I refer to, which we will call the Turner case, you testified on behalf of the Eastside Canal & Irrigation Co.?

A. Yes sir.

X Q. 579. During the trial of that case you were present at almost the entire trial, were you not?

A. Well, during the greater part of it, yes.

X Q. 580. About how many days do you think you were present in Court in that case?

1235 A. I could not say. I really could not estimate it.

X Q. 581. At any rate, it was probably a couple of months if put together in a string?

A. Well, it was some time, but I don't recollect.

X Q. 582. At any rate, you were there practically during the entire trial of the case?

A. Well, I was there some of the time. Of course, I was out working.

X Q. 583. And you were assisting not only as a witness but as an engineer generally, in the conduct of that case, were you not?

A. Yes sir.

X Q. 584. Also in the procuring of witnesses and in the attention to details along engineering lines?

A. Yes.

X Q. 585. In that case the record, I believe, here shows that it was brought by Mrs. Turner and the Las Animas Company for the purpose of reducing, as far as possible, the rights, if any, of the Eastside Canal & Irrigation Co. and getting them determined? That was your understanding of the case, was it not?

A. Yes sir.

X Q. 586. And you understood that in that case one of the questions involved was the amount of water that that canal company had diverted?

A. The Eastside Canal?

X Q. 587. Yes sir.

A. Yes sir.

X Q. 588. And you understood, did you not, that it depended for its proof, to a large extent, upon the amount of land they had irrigated?

A. Yes sir.

X Q. 589. And you testified in that case for the Eastside Canal & Irrigation Co. as to the amount of land which could be irrigated with a given quantity of water?

A. Well, depending on the character of the ground.

X Q. 590. Now, I will ask you if in that case you testified as follows, reading from page 1189 of the reporter's transcript:

Q. What, in your opinion, would be the duty of a cubic foot of water on the Turner Island?

A. Well,——

Mr. W. B. TREADWELL (interrupting): Do you mean for this particular kind of irrigation you mention, or for any kind?

1236 Mr. PECK: I mean, for wild grasses.

A. Well, it would be a pretty hard thing to estimate it, only approximately. The idea could be gained by a general estimation of other work similar to it. I generally do; one cubic foot would supply 30 or 40 acres.

Mr. PECK:

Q. On the Turner island?

A. For wild grass purposes and the method of irrigation that is in vogue here.

Q. On the Asbury field what would be the duty of a cubic foot of water per second?

A. Practically the same thing, 30 or 40, perhaps maybe it would raise 40 a trifle.

Q. And the Hammond field?

A. The Hammond field would be practically the same thing.

Q. And the Mitchell land?

A. Well, I think the Mitchell land would require less, that is, the duty of the water would be extended; it would go probably from 35 to 50 acres.

Q. Now, on the Stevinson land, for wild grass irrigation?

A. Well, it would probably run about the same, similar to the Hammond field, I should think, from one cubic foot 30 or 40 acres.

Q. Now for the irrigation of alfalfa, you know the irrigation of land that is irrigated on the Stevinson ranch for alfalfa?

A. Yes sir.

Q. You have been familiar with that for a great many years

A. Yes sir; I have been over it a great many times.

Q. What would be the duty of a cubic foot of water per second in the irrigation of that alfalfa land on the Stevinson ranch?

A. I should judge in the neighborhood of 100 acres.

Q. Now, speaking about the duty of water, you mean that is the flow of water during the irrigation season, do you?

A. Yes sir.

Q. What do you call the irrigation season?

A. Well, for alfalfa it ought to be from the 1st day of April to the 1st day of October.

Q. If in this calculation that you have made the opinions that you have stated, if the water is not had and cannot be had for the full irrigation period from the 1st of April to the 1st of October, would a greater or less quantity of water be required if the term of irrigation time, the irrigation of these seasons were shortened?

A. Well, I should think it would require a greater amount of water.

Q. In proportion to the shortening of the time would it require a proportionate increase in the water?

A. Well, I am inclined to believe it would be a little greater than the proportionate.

Q. It would take a little more water than would be represented by the proportion of the season during which you had no water?

A. If it would——

(By Mr. PECK, interrupting:)

Q. In other words, the water for a shorter time would be decreased in proportion as the water was not to be had during a part of that irrigation term that you speak about?

The COURT: Do you understand the question?

Mr. PECK:

Q. Well, I suppose the duty of water that you have testified there to illustrate in the instance of alfalfa, say 100 acres cubic feet per second, say that term during which the water could be had was lessened 1/3 would the duty of the water a cubic foot of water per second be a third less than it would be for the full term?

A. It would be more than 1/3 less.

Q. It would be more than 1/3 less?

A. Yes sir.

Did you so testify, Mr. Henderson, in that case?

A. Yes, that is my memory, that that is the correct testimony.

X Q. 591. Now you so testified in answer to Mr. Peck, who was the attorney for the East Side Canal & Irrigation Co., that is your recollection?

A. That is my memory.

1237 X Q. 592. You were cross examined in that case, were you?

A. I think so, yes.

X Q. 593. Referring to page 1241 of the same transcript, I will ask you if you testified as follows:

Q. Now in regard to your testimony in regards to the amount of water required to irrigate an acre of land or the number of acres that a cubic foot of water will irrigate, what experience have you had in that respect?

A. I have measured the water flowing into the land, for the period required.

Q. In what connection, did you ever run a canal or anything of that kind?

A. Yes sir.

Q. And you have been employed by what company in that

A. Well, I have been assistant with the Crocker people here.

Q. Well, do you know how much on an average a cubic foot of water will irrigate in the Crocker-Huffman Canal?

A. I don't think that the Crocker-Huffman got any better than perhaps a hundred acres, or perhaps 115 or 120.

Q. 115 or 120?

A. No, it is pretty hard to tell, that question is too broad to really be answered, to take it in a sandy country where it percolates very freely, the loss is very great, with certain other soils the percolation would be very light.

Q. And is that for salt grass, all kinds of irrigation, on an average?

A. They do but very little of that class of irrigation, you mentioned.

Q. Salt grass irrigation?

A. Of grass irrigation.

Q. Now do you know anything about the amount of land that the San Joaquin and Kings River Canal & Irrigation Company irrigates with a foot of water?

A. I have looked it up but only in a casual manner, I couldn't give any testimony on that.

Q. You could give no testimony on that?

A. No.

Q. Is there any other company that you know anything about?

A. I have kept track of the Nevada concerns.

Q. Well, conditions are rather different there, are they not

A. Some are, some are not.

Q. Well, what have you found up there?

A. Well, varied conditions vary with the soil. I have made a good many tests for my own satisfaction, not necessarily in the employ of anyone else, if you would like to know. The fact that I would necessarily be in somebody's employ would not mean I could not examine the amount of irrigation. I have examined land along the Merced river, on many occasions, that was rough, uneven soil.

Q. I am not trying to attack your qualifications, or test it.

A. I thought you were.

Q. I was trying to test the results. You know yourself, have you ever had any experience in Miller & Lux's irrigation? Do you know how much they irrigate with a foot of water?

A. No. I said I have only casually examined their method of irrigation. There is a difference in their irrigation the same as any one else's, owing to the soil.

Did you so testify?

A. Yes sir. To the best of my memory that is correct.

X Q. 594. The land referred to in that testimony and known as Turner island, Asbury field and Hammond field, and the Stevinson land, is land under the Eastside Canal and between it, or largely between it and the San Joaquin river?

A. Yes sir.

1238 X Q. 595. Now, in that same case you testified, did you not, Mr. Henderson, that the duty of water which you testified to amounted to that quantity of water delivered onto the land in question, and not that quantity of water diverted from the river?

A. I don't recollect how that point was asked, whether it was with relation without considering the losses in transportation.

X Q. 596. Without looking up as to what you actually testified to when you were testifying there, were you referring to the amount of water which would be required if delivered at the land or the amount diverted from the river into the canal? Which were you referring to?

A. In my recollection, to the amount delivered to the canal. That is my recollection of it.

X Q. 597. You mean then, that you were testifying that a cubic foot of water would irrigate 100 acres of land, of alfalfa, on the Stevinson land. You meant a cubic foot of water diverted from the river and into the canal? Is that correct?

A. That is my recollection of it.

X Q. 598. I want to know. It is a pretty important proposition. I want it to be the same in the two cases. I don't care which it is, but I am going to have it the same in the two cases, if I can. Now when you stated or so testified in that case, that a cubic foot of water would irrigate on the Stevinson ranch 100 acres of alfalfa, no more and no less, did you refer to a cubic foot of water delivered on that land where it was being used, or did you mean a cubic foot of water delivered into the canal at the head?

A. Well, I don't think I said "No more and no less." I think I gave it as my opinion that it is my recollection now in regard to this particular loss that it was in relation to the water put upon the land. That is the best of my memory. That is my judgment now. And I would like to say——

X Q. 599. I don't want you to say anything. Just answer 1239 my question. You either meant one way or the other.

A. But I am entitled to state the way I know. This testimony was given——

X Q. 690. You can explain that in response to questions by your counsel, but these particular questions which I asked need no

explanation. If I ask you a question that can be answered by yes or no, and it needs any explanation, all right. But I don't want you to go off onto something entirely foreign for the purpose of arguing the case.

The MASTER: I will instruct the witness that any question which may be answered by yes or no, should be so first answered, and then any matter which the witness desires to give in explanation of it, cognate to it, he is entitled to give.

(By Mr. TREADWELL:)

X Q. 601. Now, Mr. Henderson, your understanding and mine of your testimony in that case is the same, and to make it clear, it is that the amount of water that you referred to in that case as necessary to irrigate a certain number of acres of land referred to the amount of water delivered upon that land, and not merely the amount that was diverted from the river?

Mr. LANGHORNE: We object on the ground that it does not state what the witness says. The witness said, according to his best recollection. Counsel himself has stated it as a fact.

(By Mr. TREADWELL:)

X Q. 602. That is your best recollection as to what you intended to testify to, is it?

A. That is my recollection, yes sir.

X Q. 603. You have no doubt that it is correct?

A. It could not be my recollection if I had any doubt. That is my recollection.

X Q. 604. Now in every canal—at any rate, referring to these particular canals in question, and to the Eastside canal—there is of course, some quantity of the water lost by seepage and evaporation from the canal?

A. Yes sir.

X Q. 605. Therefore, if you measured the water at the
1240 head of the canal rather than on the land where it was distributed, you would have to have more water, according to your idea, to irrigate that given quantity of land than the amount you testified to?

A. Yes, there would be more, of course. It would depend upon the length of the canal and the point of diversion from the canal.

X Q. 606. But whatever loss, in other words, there would be by transmission from the head of the canal to the place of use, would be added to your diversion in order to make up the quantity of water to irrigate a given number of acres?

A. Yes; under that understanding.

X Q. 607. Now you also testified in that case as to the amount that would be lost in transmission on that particular canal, the Eastside canal, did you not?

A. Yes sir.

X Q. 608. And without going through it technically, and through all your testimony on that subject, my recollection is that you testi-

fied that if a hundred feet of water were diverted into that canal, that 45 feet of it would be lost in transmission?

A. Yes, given a certain length and certain conditions.

X Q. 609. Yes. And from the head to what is known as Collyer's extension, that is, to the point on Collyer's extension just to that point?

A. I don't think it is right at the head of it.

X Q. 610. Yes, I understand. And that if 200 feet were diverted the loss would be 60 feet, and that if 300 feet were diverted the loss would be 80 feet, and that if 400 feet were diverted the loss would be 100 feet, and that if 500 feet were diverted the loss would be 120 feet?

A. I think that was the way I gave my testimony.

X Q. 611. Now, that distance from the head of the canal, the Eastside canal, to Collyer's extension, was a distance of something like 17 miles, or possibly less, was it not?

A. I think 17 was the estimate.

X Q. 612. Now I also cross examined you on that phase
1241 of your testimony, did I not, in that case?

A. Well, my recollection is that you did, yes sir.

X Q. 613. And at any rate I was claiming——

Mr. LANGHORNE: I object to this cross examination on the ground that it is not cross examination. I don't see how counsel can, by showing the alleged duty of water at the head of the San Joaquin river, and the loss by seepage and evaporation,—how he can show that by an entirely different canal, and how that can affect this witness's testimony. In the first place he has not testified as to the loss by seepage or evaporation of this canal. It is not cross examination.

(After argument:) It is not cross examination on a different canal as to what the duty of water is on this canal. It is a different canal and different water.

The MASTER: I overrule the objection.

Mr. LANGHORNE: I take an exception.

(By Mr. TREADWELL:)

X Q. 614. I was saying, Mr. Henderson, in that case I was claiming in my cross examination, that your claim of the amount of loss of water was excessive. That was the point of my question.

A. That is my recollection.

X Q. 615. In other words, you and your clients were claiming a large loss of water, that there would be a large loss of water in transmission, and we were assuming in our feeble way to claim that there would be less than you claimed.

A. Well, those statements that were made there in regard to 100 feet, I think they were shown from actual measurement——

X Q. 616. Never mind anything about that. You said that I was claiming—I understood you to represent that it was simply a matter of judgment.

X Q. 617. I say, your clients were claiming.

A. I thought you said I was.

X Q. 618. Very well, you were claiming it, at any rate. You may have had good grounds for claiming it, but you were claiming it.

A. Yes sir.

1242 X Q. 619. I am not arguing the grounds of your claim. Now in cross examining you in that case, didn't I directly ask you whether or not you knew anything about the amount that would be lost by seepage and evaporation in the canals of complainant here?

Mr. LANGHORNE: We object to that as incompetent, irrelevant and immaterial.

X Q. 620. Was the testimony taken down in shorthand??

A. Yes.

Mr. LANGHORNE: I submit that the witness is entitled to have the questions and answers shown him.

The MASTER (after argument): At present I will overrule the objection. I will look up the provision of the Code, if there is any.

(X Q. 619 read.)

A. Yes, qualified in this respect, that I was asked whether I made actual measurements. As an expert I might have information on it.

(By Mr. TREADWELL:)

X Q. 621. I asked you if you knew anything about the loss by seepage or evaporation in that canal, did I not?

A. Well, it is my memory now that it was from actual observation. Where I measured the canal I had never computed its seepage and loss.

X Q. 622. You testified that you were unable to testify as to the amount of loss by seepage and evaporation in those canals?

A. By actual observation, yes.

X Q. 623. That is the explanation you made of it, and that is your memory of it?

A. Yes sir.

(At the hour of 12 m. recess was had until 2 p. m., when the examination of the witness was resumed as follows:)

X Q. 624. Now taking 1300 cubic feet of water at the head of complainant's canal in order to determine the amount of land that could be irrigated with that through the system, you would first determine and deduct the amount of water that would be lost in transmission, would you not?

A. Yes, that would be the only way of arriving at it.

1243 X Q. 625. And are you able now to give an opinion as to what you consider would be the proportionate amount of water that would be lost in transmission through the canal system of the complainant?

A. To give an estimate of what the loss would be?

X Q. 626. Yes.

A. Well, just simply as a matter of experience in connection with measuring canals and the losses that I have known under varying conditions.

X Q. 627. Well, what percentage do you think would be lost in transmission through those various canals? Explain it in per cent per mile, if you wish?

A. You mean the average including the outside and main canal?

X Q. 628. Yes, and the Dos Palos system.

A. I would roughly estimate it at from 18 to perhaps 30 per cent. Of course, that is only a rough estimate. If a man should sit down and spend a good deal of time in order to give an estimate, that would be more intelligent. That is just in the rough.

X Q. 629. At any rate, it would lie somewhere between those figures?

A. I think so, basing it upon 1300 second feet being diverted.

X Q. 630. Do you remember whether or not you testified in that said Turner case that in your opinion the loss of water in canals generally would lie between 2 and 2½ per cent per mile of the canal?

A. No, I don't remember giving any such testimony.

X Q. 631. Is that your opinion?

A. No, I am inclined to believe that would be a little high.

X Q. 632. What do you think would be about the rate per cent per mile?

A. Well, of course I have seen the long report upon the measurements given, and also from my own observation here, I think that we speak fairly well, not speaking of the extreme cases, I think one per cent is fairly close. But that is a very variable question.

X Q. 633. Now the next thing that you would make a deduction for on that 1300 feet would be on the length of the season.

1244 In other words, as I understand your testimony in the Turner case you are figuring on a season from April 1 to October 1. Is that correct?

A. I think that is the average season in California.

X Q. 634. And as I understand your testimony, if the flow is not maintained uniformly during that entire season it would take more water to irrigate the land? That is your testimony is it not?

A. Yes, it would, of course. That is, it all depends also upon the character of the land and the character of the subsoil. I don't undertake to set down any definite rule, but just on an average of the conditions, I should say yes, it will; because the water plane would be raised. A great deal of irrigation depends upon the condition of the water plane, and if the irrigation is carried on a sufficient length to raise that water plane then it materially assists the growth of the crops and requires less water for perfect irrigation. But ordinarily speaking, if you reduce the time why of course, you must increase the quantity in order to cover a certain area.

X Q. 635. Now can you ordinarily get a flow at the head of complainant's canal of 1300 feet in the month of September?

A. No sir.

X Q. 636. Can you get a constant flow of 1300 feet in the month of August? ?

A. No sir.

X Q. 637. Can you get a constant flow of 1300 feet in the month of July?

A. Not always.

X Q. 638. How low will the water get in the month of July at times?

A. Well, I suppose during the month of July it has gone down as low as 780 second feet if my memory serves me right. I might be mistaken just on the exact figures.

X Q. 639. Now it is also true, is it not, Mr. Henderson, that there is most always in every year in the San Joaquin valley certain times of the year when there is a very great demand for water?

A. Yes sir.

1245 X Q. 640. And it generally comes in what time?

A. Well, in August, July, the latter part of July and August.

X Q. 641. And the river is up very high at times, and the water is plentiful during the very hottest season at times?

A. Well, during the June freshets it sometimes extends far beyond the month of June.

X Q. 642. Yes, and even up to the middle of July, and even up to August, at times?

A. At times, yes sir.

X Q. 643. And you have got to irrigate very frequently at times when you have got the water? Of course, that is the natural proposition, necessarily. But what I mean is that you do not get a stated value of the water during the entire irrigation, but if the river goes up high it is very advantageous, if you can do so, to take advantage of that rise and get as much water as you can, while it is high; that is true, is it not?

A. That is true, yes sir.

X Q. 644. In other words, if the land actually irrigated by the canal could be irrigated in your opinion by a steady flow from the 1st of April to the 1st of October, of 5, 6, 7 or 8 or any other given number of hundred feet, if it flowed during that entire time, it still would be very advantageous if the canals were in such shape that owing to the fact that the flow is not steady during the entire year, to have the canals in such shape that they could take up very much more water at times, of high water, that would be true, would it not?

A. Yes, that would be strongly an advantage to the canal system?

A. Yes, that would be strongly an advantage to the canal system.

X Q. 645. You stated that in your estimate of allowing 160 to 200 acres of land to one cubic foot of water, you based that estimate on the experience of some canal companies, I understood, in Fresno County. What company was that?

A. Well, I was relying a great deal upon the United Canal

1246 Co.

X Q. 646. The United Canal Co.?

A. The Consolidated Canal Co., rather. It is more or less under one head now, under the management of Mr. Nares.

X Q. 647. What was the principal company? That or the old company?

A. Well, there were a number of companies. There was the Church ditch, the '76 ditch, which went into the Alta district.

X Q. 648. Now there are certain places under that canal, under those canals, where the water plane has raised very high—is that true?

A. Yes, that is true.

X Q. 649. And it is also a fact, is it not, that the question of devising some method of draining the land is now a subject of serious consideration by a great many owners of land along those ditches?

A. Yes, in certain districts.

X Q. 650. There being even cases where the trees have been seriously injured?

A. Yes. There have been tracts where the accumulation of water was so great that the water plane raised to such a height as to destroy the growth. Of course, those districts, though, have been comparatively small in relation to the entire area of the tract.

X Q. 651. Now what had you to do with this ditch, with those ditches and the irrigation from them?

A. Well, I have reported for several people who have thought of buying land and I looked them over and went over them with the engineer, simply watching the development in the use of the water. I have never been actually employed in the construction of any of the Fresno ditches.

X Q. 652. What have you known about the amount of water used there?

A. Well, a great deal of that comes upon the reports and the measurements made of the systems up there. I was taking the report very strongly from Mr. Teilman. He took his map and was pointing out to me at one particular time a district of about 80,000 acres which had been increased to 200,000 acres, with the same use of water, the same quantity of water. And his
1247 argument at that particular time was simply to bring out the fact that the water plane had raised sufficiently so as to decrease the use of water, and also that people had got educated in the use of water and actually consumed less. As I understand it, at that time he told me that the company were then issuing water contracts of the first and second class, owing to the efficiency of that system.

Mr. TREADWELL: I move to strike out all these statements as to what Mr. Teilman may have stated to the witness.

Mr. LANGHORNE: I object to its being stricken out on the ground that it is a proper answer to counsel's question on cross examination.

The MASTER: We will leave it in the record.

A. I could not say as to just the full conditions of what I found there, now, off-handedly.

(By Mr. TREADWELL:)

X Q. 653. At any rate, there is a condition that is more or less extraordinary in certain of that land, which Mr. Teilman referred you to, where the land is of such a character that the water plane has risen up so that the water is almost as much of a detriment as it is a good?

A. Oh no, I don't say that, but there are certain districts where the water has risen up and increased the plane, raised the plane to such a point that it is a detriment, but that is not an average condition.

X Q. 654. Now in your employment by the Eastside Canal & Irrigation Co. have you in the course of that employment made surveys and examinations for the purpose of seeing what land is irrigated by the complainant under the complainant's system?

A. No more than to ride over it.

X Q. 655. Have you on behalf of that company made examinations as to what land Miller & Lux has irrigated.

Mr. LANGHORNE: We object to that as not proper cross examination.

Mr. TREADWELL: It is simply showing the facts in regard
1248 to Miller & Lux and the Canal Company.

The MASTER: I suppose it is for the purpose of testing the credibility of the witness.

Mr. TREADWELL: Yes, to show his interest.

The MASTER: Proceed.

A. Only by riding over it.

(By Mr. TREADWELL:)

X Q. 656. You have not made definite surveys then, of the land irrigated by Miller & Lux?

A. No sir.

X Q. 657. Either under this canal or elsewhere?

A. No sir.

X Q. 658. You have heard, I understand you, that there were measurements of the water diverted both from the various sloughs and ditches and canals by them?

A. Yes sir.

X Q. 659. You made cross sections of those sloughs and canals, and so forth?

A. Yes sir.

X Q. 660. Were you not making a survey last summer through the lands of Miller & Lux, through the neighborhood of the McPike place?

A. What kind of a survey?

X Q. 661. What kind was it?

A. Well, if it was with reference to the surveying of lands regarding the acreage, no sir.

X Q. 662. No, I didn't mean that. I meant a survey in connection with the water. What was the purpose of the survey?

A. Not for this canal company, no sir.

X Q. 663. Who were you making the survey for that you made along this canal last year?

A. Mr. Patterson, of Fresno.

X Q. 664. What kind of a survey were you making?

A. The grade lines of the canal.

X Q. 665. Through Miller & Lux's land?

A. Yes sir.

X Q. 666. And you are also employed by Mr. Patterson, are you?

A. I was, yes sir.

X Q. 667. Mr. Patterson is the owner of a large tract of land known as the Patterson ranch, below the terminus of the canals of complainant and along the San Joaquin river?

A. I don't know that he owns it, but he is interested in some way.

1249 X Q. 668. A company owns it that he is president of?

A. I understand so, but of course I don't know it.

X Q. 669. You understood, did you not, that he wanted to run a canal for the purpose of irrigating that land—is that the idea?

A. That was the idea, sir.

X Q. 670. And you were thinking as to whether you could get a place through Miller & Lux's land to run it?

A. Yes sir.

X Q. 671. Did he ask your advice on that subject?

A. In regard to the location of the canals?

X Q. 672. Yes.

A. It was under my instruction that the canal was located as it was.

X Q. 673. Under your instruction?

A. Yes sir.

X Q. 674. You told him where it could advantageously be run?

A. Yes sir.

X Q. 675. And you chose a piece of Miller & Lux's land for that purpose where you thought it could be done?

A. The canal ran across Miller & Lux's and other people's land.

X Q. 676. You testified, I believe, that you knew that the Eastside Canal & Irrigation Co. had a suit pending against the complainant here in the Superior Court of Merced County?

A. I understood so, yes sir.

X Q. 677. You know that the purpose of that suit is to determine the rights, as far as possible, the quantity of water that the complainant is entitled to divert from the river—that is your understanding of that suit, is it not?

A. Well, hardly in that sense. I never understood that it was to reduce it. It was to determine the rights of each company, not to reduce anybody.

X Q. 678. Well, you didn't suppose that the Eastside Canal & Irrigation Co. wanted to increase the rights of complainants, did you?

A. Not of either one, no sir.

X Q. 679. On the contrary you know that it wants to cut them down just as low as possible?

A. I understood that it was to cut them down to a right
1250 ownership.

X Q. 680. Well, but it wants to cut them as low as possible, does it not, is not that the object of the suit?

A. I don't know what you would term "as low as possible," that does not imply anything to me. I had my instructions to make certain measurements; as to what could be gained as far as any saving in the matter was concerned, did not cut any figure with me at all.

X Q. 681. I did not ask you that, Mr. Henderson. I am asking you whether the Eastside Canal Company—I will put it in this way—does not claim to your knowledge that complainant is taking more water than it is entitled to take?

A. Yes.

X Q. 682. And they brought suit for the purpose of preventing that, didn't they?

A. Yes, practically.

X Q. 683. Now what interest, if any, have you got in the Eastside Canal & Irrigation Co.?

A. I have none whatever.

X Q. 684. What interest, if any, have you in the Stevinson ranch?

A. None whatever.

X Q. 685. What interest have you got in any of the land that was purchased from the Stevinson ranch and is being sold by Mr. Hogan?

A. None whatever.

X Q. 686. What kind of a contract have you got with the Stevinson people and the Eastside Canal & Irrigation Co. with regard to your services?

Mr. LANGHORNE: We object to that as not cross examination.

The MASTER: I understand these questions are all for the purpose of testing the credibility of the witness.

Mr. TREADWELL: Yes, that is understood.

The MASTER: For that reason the objection is overruled.

Mr. LANGHORNE: Note an exception. The witness is not a party to any of these suits. He is simply a hydraulic engineer, and he happens to be employed by people in their suits against the defendants, and he admits that.

1251 Mr. TREADWELL: We have a right to show the extent of his interest.

(Question read.)

A. I have no contract with the Eastside Canal & Irrigation Co. in any form whatever.

(By Mr. TREADWELL:)

X Q. 687. With whom did you make your contract for the ser-

vices that you have testified to that you have been performing in connection with those suits?

A. I am just simply employed. I have no contract.

X Q. 688. By whom were you employed?

A. I was employed by Mr. Stevinson through Mr. Peck.

X Q. 689. What is the arrangement which you have for your compensation?

A. Mr. Stevinson told me to send my bills to him and he would pay them, which I have done. That was prior to his death, and it has continued in the same form ever since.

X Q. 690. You have no knowledge, however, of anything except you are to send your bills and they will be paid, whatever they are?

A. Well, there is a monthly salary during the time that I am in their employ.

X Q. 691. How many months have you had that salary for?

A. I have been working for them part of the time for 22 months.

X Q. 692. Besides your monthly salary, what are you to get?

A. Traveling expenses.

X Q. 693. Nothing else?

A. Well, such expenses as travelling expenses, telephone expenses and horse feed—whatever is necessary in connection with carrying out any of their work, which I advance and pay any of the employees in the field, in the way of chain men or level men or transit men or map men, or anything of that class.

X Q. 694. When you went on Miller & Lux's land for the purpose of surveying this canal for Mr. Patterson, did you ask permission of Miller & Lux to go on there?

Mr. LANGHORNE: We object to that as immaterial, whether he did or not.

1252 The MASTER: I don't see how it is material.

Mr. TREADWELL: I will withdraw it just for a moment, and put it in another way.

X Q. 695. Since these suits have been pending between Stevinson and the Eastside Canal Co. on one side and the complainant and Miller & Lux on the other side, these various suits, Miller & Lux have known that you were employed by the Eastside Canal & Irrigation Co. right along, have they not?

A. I have no knowledge of what they knew any more than they had seen me connected in the cases.

X Q. 696. And they have always permitted your going on the land, have they not, for the purpose of making any surveys that were necessary, or sometimes for the purpose of preparing for those cases?

A. They have never objected in any form.

X Q. 697. And when you went on the land of Miller & Lux last year to make this survey for Patterson, didn't you state to Miller & Lux or their employees, or the employees of the complainant Canal Co. that you were there for the purpose of making surveys and examinations in connection with that litigation?

A. No sir.

X Q. 698. Did you ever tell them what you were there for?

A. I don't think they ever asked me.

X Q. 699. Have you ever had any negotiations with Mr. Patterson or the Patterson people by which you are also arranging to sell to them the water right or any part of the water right that the Eastside Canal & Irrigation Co. claims to own by reason of their diversion of water into the Eastside Canal?

A. No sir.

X Q. 700. Was that matter never discussed between yourself and Mr. Patterson in any way?

A. All Mr. Patterson ever asked me was if the water could be taken from such points and carried to such points.

X Q. 701. What was the point that you finally located?

A. To be off-handed I would say about 7 miles below the
1253 head of the Eastside canal.

X Q. 702. Was there not any talk of any kind between yourself and Mr. Patterson or between yourself and any other person as to that canal being supplied with the water that the Eastside canal is entitled to, or claims it is entitled to?

A. Why, I think Mr. Patterson said to see if the water could be taken out of the Eastside canal and carried to a certain point on the ranch and to show him to what point.

X Q. 703. And your survey included that, did it?

A. To show where it could be taken from and to point out where it could be taken to. That was the object of the survey, yes.

X Q. 704. Taken out of the Eastside canal, as I understand it?

A. The water taken from a point on the Eastside canal and carried to a point on his property.

X Q. 705. Then it would be carried across the river, would it?

A. The San Joaquin?

X Q. 706. Yes.

A. Yes sir.

X Q. 707. Carried across the San Joaquin river and then down on to his property?

A. Yes sir.

X Q. 708. And you also told him, did you not, that the feasibility of that plan depended on the amount of water that the Eastside Canal Co. might be able to win in these various suits that we have been speaking about?

A. No sir; that never was asked. They never inquired and I never gave any information on that subject.

X Q. 709. Was not that talked about at all?

A. Not in my presence. He asked me what I thought its rights were, and I told him I didn't know; I simply carried out his instructions regarding the survey.

X Q. 710. He didn't know what their rights were, and you told him—is that the fact?

A. I told him I didn't know.

X Q. 711. Didn't you tell him that you expected to win
1254 500 feet of water from the other parties there?

A. No sir, I did not. I am sure that he never asked the question.

X Q. 712. Now beside Mr. Patterson and the Eastside Canal Co. by whom have you been employed in the litigation against Miller & Lux or the complainant Canal Company?

A. Why, I think I am employed by the California Pastoral & Agricultural Co.

X Q. 713. In regard to particular suits or matters outside of suits?

A. In regard to matters outside, and particular suits. I have had charge for a number of years of their engineering work.

X Q. 714. You don't remember any particular suit that you assisted them in?

A. Well, I could not say off-handedly, but I worked for them, I think, in a case where they sued—I think it was——

X Q. 715. Didn't you work for them in the case in the United States Circuit Court in regard to the Chowchilla canal?

A. I have been, but I don't remember the title of the case.

X Q. 716. Now besides the California Pastoral & Agricultural Co. what other party have you worked for in litigation against Miller & Lux and the Canal Co.?

A. Well, in water litigation?

X Q. 717. Any kind.

A. I think there was a damage suit at one time I gave testimony in, in De Long against Miller & Lux.

X Q. 718. That was a suit for damages against Miller & Lux for the flooding of a road to a certain point?

A. Yes. I was at that time County Surveyor of Merced County, and was instructed by the District Attorney to make an examination from which the result took place.

X Q. 719. So your work then was begun while you were in the employ of the County?

A. The first examination. I was upon the ground at the time that the accident occurred and so was the district attorney.

X Q. 720. And you made your examination immediately?

1255 A. Well, I followed it up afterwards by other examinations.

X Q. 721. Then afterwards, after several years, if I remember rightly, De Long brought suit for damages against Miller & Lux for being injured at the point of the overflow?

A. I don't remember just the length of time, but I think a year or two years.

X Q. 722. Just about the time that the statute of limitations would commence to run, if you remember it?

A. I could not say as to that. I am not an attorney. Simply my memory is that it was between one and two years.

X Q. 723. And then you were employed, were you, or were you not, by Mr. De Long?

A. Yes sir, by Mr. De Long.

X Q. 724. And you testified for him?

A. Yes sir.

X Q. 725. And you testified that at a certain point where he

claimed the accident happened the road would be overflowed and was overflowed by the action of the works of Miller & Lux?

A. Yes sir.

X Q. 726. Mr. De Long recovered judgment in that case for some $10,000?

A. Yes sir, I think so; $9000 or $10,000; I forget which; somewhere in that neighborhood.

X Q. 727. That judgment was subsequently reversed, was it not?

A. Yes sir.

X Q. 728. And it was reversed, was it not, on the ground that the point where you said the water would overflow, and which was the place where De Long said he had been injured, was, as testified by him, at a certain distance from the end of what was known as the graded portion of the road, when it turned out as a matter of fact, that that grade had been extended from several hundred yards, which destroyed your testimony completely. Is not that a fact?

A. I don't know that to be a fact, no.

X Q. 729. Did you ever read the decision in that case?

A. No, I have not. All I have heard was just what was simply told me by the attorneys in the case.

1256 X Q. 730. Now what other case have you been employed in against Miller & Lux or the Canal Company?

A. Well, I don't recollect of any others except those. I worked for the Chowchilla where Miller & Lux were jointly in the suit But I can't separate the time or the particular period between them.

X Q. 731. Well, you remember a case entitled Miller & Lux against Rickey?

A. Oh, yes, in Nevada.

X Q. 732. Yes.

A. Yes.

X Q. 733. That was a case, was it, brought by Miller & Lux against substantially all of the claimants to water on what is known as the Walker river in the State of Nevada, including one Rickey?

A. Yes sir.

X Q. 734. And you were employed, were you, by Mr. Rickey to assist him in as-erting his rights in that case?

A. I was employed by him to measure the flow of the streams, together with assistants; also in connection with certain constructions.

X Q. 735. You were also to survey the land of Miller & Lux which he claimed had been irrigated by them, were you not?

A. Yes sir.

X Q. 736. And you did it?

A. Yes sir.

X Q. 737. And you also surveyed the land of Rickey that you claimed had been irrigated by him?

A. Well, I never had instructions to that effect, that I remember.

X Q. 738. Well, did you survey his land?

A. No sir.

X Q. 739. Now in that suit you remember, do you not, that Miller & Lux and all of the parties defendant to the suit with the ex-

ception of Thomas B. Rickey, entered into an amicable arrangement by which the rates were to be determined by the State engineer, Henry Thurtell, so far as Miller & Lux and all of the parties with the exception of Rickey were concerned?

A. Well, I didn't know how many signed up, no sir. I knew that there was an agreement.

X Q. 740. You knew that substantially all of them did?

A. Yes sir.

1257 X Q. 741. And you understood that the State engineer did report on those rights?

A. Yes sir.

X Q. 742. And you knew, did you not, that some of the parties to that stipulation filed protests to certain of the findings which were in favor of Miller & Lux?

A. Yes sir.

X Q. 743. And Mr. Rickey was not a party to that stipulation in any way?

A. Not that I know of. I don't know who were the parties.

X Q. 744. But you understood that he was not?

A. I never heard that he was, or was not.

X Q. 745. You knew he was not?

A. I didn't know because I never heard it discussed.

X Q. 746. Do you mean to say that you didn't know that Mr. Rickey had never signed that stipulation?

A. I have no knowledge of it one way or the other.

X Q. 747. You knew that his rights were not determined by the state engineer?

A. Yes sir, certainly I knew that.

X Q. 748. Now you remember that that protest was taken up by the State engineer and several weeks of testimony taken on it, do you?

A. Yes sir.

X Q. 749. And do you remember that after that had been done that the parties got together and attempted to settle their differences?

A. Yes sir.

X Q. 750. And about that time you appeared on the scene in Nevada, didn't you?

A. I was ordered to come there, yes sir.

X Q. 751. Who ordered you over there?

A. Whoever the people were that subpœnaed me and brought me over.

X Q. 752. They subpœnaed you, did they?

A. Yes sir.

X Q. 753. They subpœnaed you in California?

A. Yes sir.

Mr. LANGHORNE: I don't think that is material. I don't think we ought to pay for all this. It may be very interesting to Counsel to find out things that he wants to find out about in other litigations.

1258 Mr. TREADWELL: It is for the purpose of showing the feeling of this witness toward the complainant and Miller & Lux.

Mr. LANGHORNE: I do not understand that an engineer or an attorney cannot accept employment.

The MASTER: There may be a total failure in the answers of the witness to show that he has any such feeling as would affect his credibility, but I think counsel has a right to ask the questions. I think it should be left for the court to determine to what extent his credibility is affected by his relations with these various parties.

(By Mr. TREADWELL:)

X Q. 754. Now Mr. Henderson, did you not then proceed, when you came up into Nevada, to do everything in your power to advise and counsel the protestants in that case against entering into the proposed settlement with Miller & Lux?

A. No sir; I don't think I ever gave an opinion on it.

X Q. 755. You never did?

A. No, I never gave an opinion on it.

X Q. 756. Didn't you offer to them that if they would not settle their differences and adjust their rights,—tell them that you had made a survey of Miller & Lux's land and that you would testify to it, and that it would defeat Miller & Lux's claims?

A. No sir, I never said that it would or would not.

X Q. 757. Did you tell them that you had made a survey of Miller & Lux's land for Mr. Rickey?

A. The people who went into the case, who went into the field with me, pointed out certain lines and boundaries to me, and I understood from Mr. Rickey and from Mr. Rickey's instructions, that they were to be used in the case.

X Q. 758. I don't understand that answer.

A. Well, when I went to Mason Valley Mr. Rickey wrote letters and also saw parties that were among the co-defendants with Mr. Rickey, and it was mutually understood that they should have the use of the map in any suit that they might bring for any information or any showing that they might wish to make, and that

1259 they might show me the boundaries of the old irrigated tracts.

X Q. 759. That is, Mr. Rickey, as I understand you, wrote to these people that they could use your survey for the purpose of determining as far as they could, the amount of land that Miller & Lux had irrigated, is that correct?

A. Yes sir.

X Q. 760. Did you see those letters?

A. Why, he gave me one of them, a letter of introduction to Mr. Wilson.

X Q. 761. Gave you one?

A. Gave it to me and I gave it to Mr. Wilson.

X Q. 762. In other words, he introduced you to Mr. Wilson and said "Now, Mr. Henderson will give you the use"?

A. He did not say "Mr. Henderson," he said "we will."

X Q. 763. Give you the use of the surveys which were being made of Miller & Lux's land, is that right?

A. That is it substantially.

X Q. 764. Now, Mr. Wilson was secretary or president of the companies, of the association of Water Users on Walker river?

A. Well, I understand that he was an official.

X Q. 765. At any rate, he represented, he was the head man representing the protestants before the State engineer against the rights of Miller & Lux—is that correct?

A. I don't know that to be correct. I don't know who was the head.

X Q. 766. You don't know who was the active man in the fight?

A. I didn't know anything about it.

X Q. 767. Who was present at the conferences that was being held? Who was present?

A. I was not admitted. I don't know what took place.

X Q 768. Now, you remember how long those negotiations and settlements were on at that time, do you not?

A. No, I do not.

X Q. 769. How long did you stay up there?

A. Two or three days, I think.

X Q. 770. Not longer than that?

A. That is my memory, 3 days. I think 3 days is all.

1260 X Q. 771. You knew, did you not, that a committee was appointed or that there was a committee representing the protestants who were naturally opposed to a settlement?

A. Well I didn't know that there was a committee. I knew that there were people there representing the protestants. I had no knowledge of their organization whatever.

X Q. 772. Do you remember a particular meeting that those men held at the hotel in the room of Mr. Issac Frohman, one of the attorneys in the case of Miller & Lux?

A. No, I do not.

X Q. 773. You did not know any thing about any meeting being held in his room?

A. I didn't know anything about it. I never was in his room. I saw him there, I believe. As far as having any knowledge of the meeting, I didn't have any knowledge.

X Q. 774. Didn't you wait up until nearly midnight for those people to come out of his room, so that you could talk with him?

A. No sir.

X Q. 775. Didn't you take them to your room and talk with them?

A. Yes more than once. I had a special appointment with Mr. Wilson. He simply asked me how far the line was. He had seen Mr. Frohman.

X Q. 776. He had seen Mr. Frohman?

A. He had seen Mr. Frohman, yes.

X Q 777. How long did he wait?

A. I don't know. I think he came in along towards half past nine or ten o'clock in my room. He was lodging in the same hotel, the same floor I think, with Mr. Frohman.

X Q. 778. Did he tell you of the progress that was being made in regard to the settlement?

A. He did not.

X Q. 779. He didn't tell you any thing about it?

A. I haven't any recollection of it.

X Q. 780. And you say that you never told Mr. Wilson or any other member of that committee, or talked to them as to whether or not they should make this settlement?

1261 A. No. I think they told me what it was going to be, and I don't know today. They asked me about certain ditches or certain tracts of land that were irrigated here and there, and I gave them as correct an opinion as I could, and that was all.

X Q. 781. You helped them out in every way you possibly could?

A. I just told them what they asked, which was the truth.

X Q. 782. Now how did you get this letter and where did you get it from Mr. Rickey?

A. That is when I first went over there.

X Q. 783. Where did you meet Mr. Rickey?

A. I don't think I met Mr. Rickey?

X Q. 784. How did you come to get the letter from him?

A. I think Mr. Rickey gave me a letter introducing me to a number of the Smith and Mason valley people, when I went there to work.

X Q. 785. When did you meet Mr. Rickey?

A. I think he mailed them to me. The first time I met Mr. Rickey, I met him soon after I went up there.

X Q. 786. That is, when you went up there to do the work?

A. That is before I did the work; a long time ago.

X Q. 787. You understand that that case has since been settled and adjusted, do you?

A. Nothing more than what I saw in the papers.

X Q. 788. Mr. James F. Peck, I think you have testified, is the attorney for the Eastside Canal & Irrigation Co. in all of this litigation with the complainant here, all of its litigation?

A. Together with Mr. Torchiara.

X Q. 789. Mr. James F. Peck is also the attorney for Mr. Rickey, in this suit in Nevada that you refer to?

A. Yes sir; well, T. B. Rickey's suit.

X Q. 790. Who employed you in this case—who first spoke to you about being a witness here?

A. Mr. Wangenheim. Well, I don't know that he was the first one; no, he was not the first one. There was several spoke to me about certain points of it.

1262 X Q. 791. Who was the first one that you spoke to?

A. That I spoke to?

X Q. 792. Yes.

A. I don't remember that situation, the way you put it. The first one that I spoke to with regard to the suit was Mr. Langhorne, after receiving instructions from Mr. Wangenheim.

X Q. 793. You spoke with him, you had a talk with Mr. Wangenheim before you saw Mr. Langhorne?

A. Yes sir.

X Q. 794. Whom did you speak with in regard to the case before that?

A. I don't know. There were several of the people asked me different questions, but none that had authority unless it was someone I did not know that they had authority. At that time I didn't know who the officers of the association were, only that Mr. Wangenheim told me, I believe, that he was an officer.

X Q. 795. At the time you first talked to Mr. Wangenheim did you also talk to him about employing Mr. Peck as an attorney to defend the suit?

A. I don't think I did at that time.

X Q. 796. When was it that you had that conversation?

A. That was at another time.

X Q. 797. Did you have any talk about that at all?

A. Not that I have any recollection of.

X Q. 798. Did you ever talk with anybody on that subject?

A. Mr. Laughorne was the attorney in the case the first time I knew anything about it.

X Q. 799. You never had any talk in regard to employing Mr. Peck?

A. No sir.

Mr. LAUGHORNE: I object to that. I don't see how it is cross-examination.

Mr. TREADWELL: I want to show his interest in the case.

The MASTER: The question is answered.

Mr. TREADWELL: There was one bit of evidence that I asked Mr. Henderson about, as to his testimony in the Turner case, in
1263 which I asked him if he didn't testify that he didn't know anything about the loss of water by seepage and evaporation in the complainant's canals. I find that that particular book of testimony is in Fresno, and if there is no objection I would like to reserve the right to simply read that part of it when I do get it. Of course, if you want to recall Mr. Henderson and ask him anything further about it, you can do so.

Mr. LAUGHORNE: All right.

(By Mr. TREADWELL:)

X Q. 800. Now, Mr. Henderson, have you got your notes which you made when you made your examination of complainant's canals and works?

A. Those that you asked for?

X Q. 801. Have you got the notes that would show you now which you used in any given case in order to determine the amount of excavation? That is, whether you used the bank cross section or the cross section of the excavation?

A. Yes, I have the notes showing which I used straight through.

X Q. 802. In every case?

A. Yes sir.

X Q. 803. Now referring to Exhibit 29 C, that first cross section of 9 plus 54, can you say now whether you used the natural banks or the excavation?

A. I evidently have not the sheet with me. I had it with me and I have forgotten it. I had it this morning and I put it in my

pocket. I have got all the main canal down to Station 188, and I either accidentally failed to connect it with this, or I have dropped it since. It was all on one sheet down to 188, and I evidently have either accidentally laid the sheet down at noon, or——

X Q. 804. Have you got Station 195 plus 50?

A. I commenced at 188 plus 40, and from there to Station 275 plus 39 I used the yardage in banks plus 10 per cent.

X Q. 805. Which station did that cover?

A. From Station 188 plus 40 to Station 275 plus 39.

X Q. 806. How many cross sections did you have in that place?

A. I think that I used 3 of them in that distance.

X Q. 807. Where are those? What part of the canal are those on?

A. You mean the main canal?

1264 X Q. 808. Yes, in what part of the main canal?

A. It begins at a point 18,840 feet below the head of the canal, which we assumed to be the end of the slough.

X Q. 809. Now do you remember without looking at your notes as to whether you used the yardage of the banks or the excavation from the head up to this point of 18,840 feet?

A. I don't recollect at present, no sir. I had it with me, but I evidently have lost it. I can reproduce it, though.

X Q. 810. Now the next three cross sections 281 plus 69, 287 plus 57.5 and 299 plus .05?

A. Well, the way I did, I commenced at the station where I left off before, which was Station 275 plus 39, and continued to 287 plus 59. That was the yardage in the banks between those points, plus 10 per cent.

X Q. 811. Now what was the next cross section that you used?

A. The next section I calculated was from Station 287 plus 57 to Station 310 plus 00, we used the yardage in banks between those, plus 10 per cent.

X Q. 812. What is the next series of cross sections that you used?

A. From Station 301 plus 00 to Station 329 plus 19. That was the yardage in banks plus 10 per cent.

X Q. 813. What was the next series that you used?

A. The next was from Station 329 plus 19 to Station 352 plus 00.

X Q. 814. And what did you use in that calculation?

A. The yardage in the banks.

X Q. 815. Where was your next test?

A. From Station 352 plus 00 to Station 410 plus 00.

X Q. 816. What did you use in that?

A. The yardage in the banks plus 10 per cent; just the same.

X Q. 817. Where is the next rest that you ran to?

A. Station 410 plus 00 to Station 451 plus 63.

X Q. 818. In that what did you use?

A. The yardage in banks plus 10 per cent.

X Q. 819. The next?

A. From Station 451 plus 63 to Station 501 plus 05.

1265 X Q. 820. You used the yardage in the banks there?

A. Yes sir.

X Q. 821. The next?

A. From Station 501 plus 05 to Station 529 plus 71, the yardage in the banks plus 10 per cent, the same as the rest. From Station 529 plus 71 to Station 578 plus 48, the yardage in the banks plus 10 per cent.

X Q. 822. You don't seem to have got it here on this map. What point does that take us to?

A. I think that takes us to where the parallel canal heads.

X Q. 823. Now taking that section of the canal where it leaves China slough until it comes to the parallel canals, what kind of a country does that go through—a level country or a rolling country, an uneven country?

A. Well, it is not the levelest nor is it very uneven. It is just a middling level country. The left-hand bank of the canal I think has a little greater elevation than the right hand, on an average.

X Q. 824. Do you remember the variation, how great the variation was between the various cross sections of the bank that you have made in that distance?

A. How much they varied?

X Q. 825. Yes.

A. No, I do not, off-handed. Of course, I have notes that will show it.

X Q. 826. Is there anything there in the condition of the country that would cause much variation?

A. Well, not farther than I think that the general country just on the left-hand side of the canal is a trifle higher than that on the west, along the upper part of it.

X Q. 827. But otherwise, the amount of excavation ought to be quite uniform, you think, throughout that stretch?

A. No, of course the cut coming from the river is a larger——

X Q. 828. Wait a minute. Where the canal leaves China slough, that is what you are talking about?

A. That is the one I had reference to. (Question 827 read.) I should say the actual conditions would speak better than my memory of it. The cross section shows at each station what the condition was.

X Q. 829. Well, that is what we are trying to test, as to whether or not the condition that you found there is the same condition in regard to the banks that you would have found there, if you had gone there 40 years ago. That is what I am trying to ask you now, whether in your opinion the cross sections in that territory, considering the contour of the country, would have shown a substantially uniform amount of yardage in the banks, or whether you would expect it to vary to any extent?

1266

A. Well, there would not be such an awful variance. There is bound to be a variance in places. It might be noticeable in some places, but it would not be like running a canal across the undulating conditions of a very rough country. Still, it would a good deal depend upon the location and also on the amount of curves you placed in the canal.

X Q. 830. Now where was the next place you figured?

A. From 578 plus 48 to 610 plus 00. Through that section I

used the 3 banks, the center bank and the right bank and the left bank.

X Q. 831. You have got a mark on here at Station 581 plus 71, marked "Berm." What did you do in regard to that?

A. On which bank is it?

X Q. 832. These places that are marked "Berm."

A. It don't say the part of the bank that was above the average surface. In some cases I might add, and perhaps in this case, there might have been a little of the berm included in the bank, because it was impossible to separate it.

X Q. 833. Now where did you go to next?

A. I quit at 610 plus 00 and went from 610 plus 00 to Station 630 plus 00.

X Q. 834. You used the same method there?

A. Yes sir.

X Q. 835. We might shorten this a little bit, if you will tell us where you ran. Just tell us where you ran right along. Just show how far you used the method of yardage in the banks.

A. To Station 1995 plus 29.

X Q. 836. And there does not seem to be any cross section at that particular point?

1267 A. That was from the head of Los Banos creek. And from Station 2007 plus 51 to Station 3225 plus 00 I used the excavation in the cut. The cross section that you will find there is 3009 plus 12; and then I continued the use of the——

X Q. 837. How about the part from Los Banos creek to Station 2007 plus 51? I don't think you covered that.

A. Yes, from 1995 plus 29 to Station 2007 plus 51.

X Q. 838. Now in this last part where you have given that you used the cut instead of the bank, have you got the figures showing which were the greater, the banks or the cut?

A. I have one part of them—I can give you part of them. From 2007 plus 51 to Station 3225 plus 00.

X Q. 839. Yes. But you only have got part of them?

A. I haven't got them all.

X Q. 840. How much have you got?

A. I have got from 2007 plus 51 to 2090 plus 00 as 52,242 cubic yards in the bank.

X Q. 841. In the cut?

A. 68,588. From Station 2090 plus 00 to Station 2260 plus 00 I have 100,000,—100,101 in the banks and 121,712 cubic yards in the cut. And from Station 2260 plus 00 to Station 2400 plus 00 I have 102,751 cubic yards in the bank, and 70,604 in the cut. That is as far as I have them here.

X Q. 842. Does that allow for the 10 per cent, or not?

A. No sir. That is, in the banks, you mean?

X Q. 834. Yes.

A. No sir, there is no allowance made for that.

X Q. 844. So in that distance if you allow 10 per cent of the amount of the bank it would be slightly greater than the cut, would it not?

A. I have not figured it recently.

X Q. 845. Following on from the last station.

A. 3225 plus 00?

X Q. 646. Yes.

A. To Station 3746 plus 31 I used the cut.

X Q. 847. The next?

A. That is the end of the canal.

X Q. 848. Now the newer a canal is, the more accurate results could we get from examining the banks? That is, you could
1268 get more accurate results from a new canal than you could from a very old one?

A. I don't agree with you there, no sir.

X Q. 849. You think the older a canal gets the more accurate results you can get from an examination of the banks?

A. No.

X Q. 850. What do you think?

A. I think it depends upon many conditions that go to make up the problem.

X Q. 851. At any rate, the lower end of the canal is the newest part of it?

A. I understand it to be.

X Q. 852. And in that you used the cut?

A. Yes sir.

X Q. 853. And the upper end, which is the oldest part, you used the bank?

A. Principally, yes.

X Q. 854. Now taking the outside canal, beginning at Station 853 plus 18, is it? Is that the figures?

A. No, I commenced chaining right at the head of it.

X Q. 855. How did you figure the outside canal?

A. From Station 0 to 1002 plus 50 I used the cut.

X Q. 856. And the next?

A. From 1002 plus 00 to Station 2567 plus 95, I used the cut.

X Q. 857. Where does that take you to, Mr. Henderson?

A. It takes to the end of the outside canal.

X Q. 858. Now, on the Dos Palos system you went a ways, did you, down the Dos Palos canal?

A. From Station 0 plus 00 to Station 102 plus 50, we used the average cut. That was in Fresno County. And in Merced County we used the average cross sections of the cut.

X Q. 859. That means you used the cut altogether in the Dos Palos system?

A. Yes. There are some parts of the upper end of the Dos Palos canal that was cut down. The canal was cut down, had washed out; had eroded down. In that case there was no banks, and in some of the places I took what I considered an average cut, the distance the yardage would give of the average cut down.

X Q. 860. Why were there no banks?

A. They were washed away, if there were ever any in
1269 there. I have not any recollection of seeing any. There was a part of the banks, of course. The greater part of it had banks, but in some places the banks were imperfect.

X Q. 861. They were so imperfect that you could not base any estimate of the amount of excavation on the banks?

A. No, I didn't think that I could rely upon it.

X Q. 862. And you determined in your mind that there had been a washing away?

A. I knew that for a positive fact, from memory of the canal. But that is all confined within the upper sections which I testified to.

X Q. 863. Now in the spillways between the main and outside canals, what we call the outlet canals, what have you to say?

A. I didn't bring those along.

(Further hearing continued until Tuesday, March 9, 1909, at 10 A. M.)

1270 TUESDAY, *March* 9, 1909—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Cross-examination of H. H. HENDERSON, resumed.

(It is stipulated that that portion of the testimony of this witness in the Turner case in regard to the duty of water and the loss of water on the complainant's canal may be read from the transcript of the testimony when obtained, without recalling the witness, and with the right to the defendants to recall him, if they are so advised.)

X Q. 864. Mr. Henderson, in regard to the matter that I was speaking about, of the settlement of the suit of Miller & Lux against Rickey and others in Nevada, the matter of that settlement was first taken up, was it not, while you were present in the office of Mr. Mack, the attorney for the protestants in that case?

A. You mean while I was before the committee?

X Q. 865. Yes.

A. No, I don't remember of ever being before the committee.

X Q. 866. Were you not present at times in Mr. Mack's office when Mr. Frohman was present and Mr. Mack and some representatives of the protestants in that case, when the question of the settlement was discussed?

A. Why, I think—of course I was there during 3 or 4 days. I don't remember of any of the merits of the thing being discussed. Of course, I knew there was a discussion going on, and at Mr. Frohman's request I think I retired to the next room during any discussion with reference to it. I have no knowledge—I had no knowledge at that time and I have no knowledge even now, as regards what the settlement was.

X Q. 867. I did not ask you that. But you were present
1271 at the time that I refer to?

A. Well, I don't recollect being present when any discussion in regard to the settlement was being made.

X Q. 868. Well, you knew that the parties were there for the purpose of discussing the settlement of that case, did you not?

A. Well, they were taking testimony.

X Q. 869. They were not taking testimony in Mr. Mack's office were they?

A. No.

X Q. 870. And they came out of Mr. Mack's office for the purpose of settling that case, if they could do so, did they not?

A. Yes sir.

X Q. 871. And you were there?

A. Well, the office consisted of more than one room.

X Q. 872. But you were in the room where they were in the first instance?

A. Not when they were discussing.

X Q. 873. Now I am not asking you about that. But in the first instance when they got there, you were in the room, in the same room where the other parties were?

A. Yes, we were all in the room together, as far as I recollect. Mr. Mack and the Mason Valley representative and Mr. Frohman came in.

X Q. 874. And Mr. Frohman objected to your being present while the discussion was going on, as to the settlement in that case, did he not?

A. I was told so by Mr. Mack.

X Q. 875. And then you retired?

A. Yes sir.

X Q. 876. Now while you were there, didn't you make suggestions as to the matter, as to the merits of the case?

A. Oh, I made suggestions only when asked in regard to certain acreages; that is all.

X Q. 877. And you did give certain suggestions on those subjects?

A. Well, if they asked me how many acres there was under a certain ditch according to my map, I told them.

X Q. 878. Now referring to your report, Mr. Henderson, do you remember a ditch that was called sometimes a drainage ditch, and sometimes a side ditch, running along the side of the main

1272 canal?

A. Alongside the main canal?

X Q. 879. Yes.

A. Yes sir.

X Q. 880. Where does that begin, according to your memory, substantially?

A. Well, I think it is between Los Banos and Camp 13.

X Q. 881. Is not that drainage ditch farther toward the head of the canal than Camp 13?

A. On the main canal?

X Q. 882. Yes.

A. I don't recollect it now.

X Q. 883. Well, referring to page 68 of your report, you begin on the main canal at Station 1430 plus 00. Is that the point where you understand the side ditch or the drainage ditch commences?

A. Yes, I think that that is the point.

X Q. 884. So that you have in Fresno County no side ditch or drainage ditch at all?

A. On the main canal?

X Q. 885. Yes.

A. No, I don't think that I allowed for one on the main canal.

X Q. 886. Do you know whether there is one or not?

A. I don't recollect one at the present time.

X Q. 887. You have referred to certain drains in several places in your report. You know what you mean by drain? Take page 18 for instance, Station 751 plus 71.

A. Well, that could either have been a box canal, or perhaps a drain under one bank into the canal. I don't just recollect what it was now. But those things which I took for the purpose of draining the land were not for irrigation, that is, not to let the water out of the canal upon the land, the high land.

X Q. 888. That total in lead pencil on the bottom of page 65 of "Miscellaneous Structures," is that carried into your total summaries?

A. That was the intention. I have not checked it up since

X Q. 889. You suppose it is?

A. It was intended to be, yes.

X Q. 890. That total at the bottom of page 65 was not in there at the time you filed it here, was it? You inserted those totals after that was filed?

A. Yes sir.

1273 X Q. 891. And those totals are carried into your total of the footings?

A. That was the intention. They should be if they were not. I think they were. They were made out.

X Q. 892. Referring to page 17, the headgate at Station 0 plus 30, you have that headgate, do you, at the head of the canal?

A. Well, yes. That is the one you asked me about the other day.

X Q. 892. Yes, I think I asked you something about it. Now do you remember whether that includes the piling below the headgate?

A. The wing piling?

X Q. 894. Yes.

A. No, it just contains the wings, the foot wings of the cut and the bulk-head of the cut.

X Q. 895. Where is that wing piling in this report?

A. It is measured in, that is, you mean the wing piling recently repaired?

X Q. 896. Yes.

A. That has been recently placed in there this year.

X Q. 897. Last year. I mean 1907, sometime.

A. I notice here that I have bulkhead and protection wings on page 6. The bulkhead that is on the left bank, which according to my recollection is recently filled in, was taken, and I could not say without referring to my work, whether if is in here or not. But I think it is. That was my intention.

X Q. 898. In what place?

A. The intention was to place it under the head of the Bulkheads or Protection Wings.

X Q. 899. To make the record clear, as I understand you, without being positive, you think that the bulkhead which is below the headgate at the top of page 7 at Station 0 plus 30 would be included in the term "Bulkhead and Protecting Wings" on page 6?

A. Well, I should have to check it up to be absolutely certain, if there is any question of its being left out. It was calculated, I know, and measured.

X Q. 900. Well, your idea was that the bulkhead below the headgate at Station 0 plus 30 was put in some time this or last
1274 year?

A. No, no; not the piling. The piling I think has been there for a number of years, the piling part of it.

X Q. 901. By a number of years, what do you mean?

A. Well, my memory is that it has been there at least 4 years. It might have been repaired, or something of that sort, some slight change. I know that there has been brush put against it and filled up with earth. I could not say just when that was done.

X Q. 902. But you think the piling is old?

A. I think most of the piling is old.

X Q. 903. Turn to page 106 of your report; the spillway at 1335 plus 85. That is the spillway at what is known as Camp 13 West, is it not?

A. That is my recollection, yes.

X Q. 904. What is your recollection as to the width of that spillway West?

A. The width across the stream?

X Q. 905. No, not across the stream, the width with the stream? What do you call the width of a spillway—I mean in this report?

A. The width I had reference to was the floor, generally.

X Q. 906. Following on the direction of the canal?

A. The direction from which the water flows. The flooring is at right angles. The length—I have written "Length" here; that is the opening of the gate.

X Q. 907. Now what is your recollection as to the width of that waste way?

A. Do you mean across the stream?

X Q. 908. I mean just the same as you mean?

A. Of course, my memory of so many of those things does not serve me very closely. I should think in the neighborhood of from 36 to 40 feet.

X Q. 909. That is what you have got for the length. I am asking you the width.

A. Well, I thought I asked you to repeat that question the second time, to be sure what you meant.

X Q. 910. You have a width here of 16 feet. Now what direction do you mean by that?

A. Up and down the channel.

X Q. 911. The channel of the waste?

A. The channel of the waste.

1275 X Q. 912. Which would be at right angles to the canal?

A. Well, nearly so.

X Q. 913. I mean substantially so. Now that is exactly what I mean. Now I say, what is your recollection as to the width of that?

A. Well, I don't recollect any farther than that.

X Q. 914. But it says 16 here?

A. That might have been the upper floor.

X Q. 915. Have you got your note book here?

A. No; I have not got it here. It might have been the upper floor, the width on the bottom. Whatever I took would be more than likely, in that case, the lower floor.

X Q. 916. When you give the width and the length and the depth of the structure, what do you generally mean?

A. I mean the part that is floored. Sometimes where the box has a much bigger floor in the foundation than the upper part, over which the teams travel.

X Q. 917. Can you put a 12-foot depth of spillway and only have it 16 feet wide?

A. Could you?

X Q. 918. Yes. Have you ever seen it built that way?

A. Yes, I have seen it built that way, but that is not customary. That width is very apt in quoting, to be read for the space in which the teams travel in place of the base of the cut.

X Q. 919. Now, did you put in this notation over "Bridge" that you found across the canal?

A. My intention was to note all bridges. Some of them you find, are not calculated.

X Q. 920. Can you inform me of any that are not calculated?

A. If I can find them by going over it.

X Q. 921. By "calculated" you mean you have put in the value of them?

A. Yes.

X Q. 922. But have you put every one in here, whether it goes across the public road or not?

A. That was my intention.

X Q. 923. Your intention was to put them all in?

A. Yes.

X Q. 924. But some o fthem you assume that you did not put in?

1276 A. Well, here is one on page 118. It says "County Road Bridge." It is at Station 1790 plus 47.

X Q. 925. Now you have put in there a notation "County Road Bridge built by County." Do you know when that was built?

A. I could not say off-hand-ed, without looking up the station. My memory is that it was a new structure that had not been used. I can only recollect two instances. It might be either one. There is a new bridge below. I think one is below Los Banos, that the approaches have not been completed, and I was informed that it was a new County road bridge. Then I think there was another bridge, and this might be it, up at Los Banos where I knew the bridge was, a County road bridge, because an allowance was made for the road and for the bridge when the canal having been constructed prior to the building of the county road, and I was County

Surveyor at that time. I think in those two instances I made those notes.

X Q. 926. Now in the first instance, the case where you say you were informed that it was a new county road, did you know anything about it yourself, as to who built that bridge, of your own knowledge?

A. I never looked up the record to see who built the bridge, no sir.

X Q. 927. You didn't know of your own knowledge, I mean, as to who did build it, or who paid for it?

A. No.

X Q. 928. Now in the other case you say that you have one in mind where you say you think that you knew it was built by the County?

A. I drew the plans for the bridge and I recommended a certain allowance to be made to the canal company for the construction of the bridge, and my recollection is that it was built under the supervision of and by the County.

X Q. 929. The county might draw the plans for a bridge along the county road, crossing the canal, without paying for it, might they not?

A. In those cases I was acting as one of the appraisers, one
1277 of the viewers who fixed the value of the bridge and the compensation, the limit of compensation to be allowed to the contractor for building the bridge.

X Q. 930. Were you taking some property of the canal company for the road?

A. Yes sir.

X Q. 931. And you mean in doing that that you made an allowance to the canal company for the expense of building the bridge?

A. No, it did not go to the canal company.

X Q. 932. What do you mean by that? You said you recommended?

A. In one particular instance we recommended the allowance for the payment for the bridge or structure, the bridge constructed by the canal company.

X Q. 933. You think that there was a case that you know of where the canal company had constructed a bridge and where you recommended that the county pay for it?

A. Yes, together with the other viewers appointed by the Board of Supervisors.

X Q. 934. What were the viewers appointed for?

A. To view and estimate the cost of construction and the value of property damaged by the proposed road, along the route as requested, or to recommend another route.

X Q. 935. And you think in doing that, that since the canal Co. had built the bridge at that point, which the county was to use, that you recommended that the company be allowed for that, when the county took it—that is your recollection?

A. That is what the report shows, yes; but that was not the only instance.

X Q. 936. Well then, let us take that instance. Do you know whether that was allowed, whether the money was paid to the canal company?

A. My memory is that it was. I would not say positively.

X Q. 937. Do you know what bridge that was, over what road?

A. Yes sir. It is the first road leading west, which is about a half a mile south of the Wagner ranch.

X Q. 938. Do you know what year that was built in about?

A. What year?

1278 X Q. 939. Yes.

A. What year that bridge was built in?

X Q. 940. Well, the year that the road was laid out.

A. I could not say positively; along in 1899, I think.

X Q. 941. Do you know whether you included the valuation of that in this report or not?

A. No, I don't think I did.

X Q. 942. Did you omit the valuation of any other purchase than those ones that you have referred to?

A. My intention was to show them here on the report, those that I omitted, without placing the value.

X Q. 943. At Station 2281 plus 67 on page 135 you have there a newly constructed bridge. Do you know when that was constructed?

A. Only from what a man told me who lived close by.

X Q. 944. What did he tell you?

A. He told me that it was a new bridge, recently constructed.

X Q. 945. What do you mean by "recently?"

A. Well, within the last few months.

X Q. 946. Then that is not included, as far as value is concerned?

A. No, the report shows that there is no valuation included for that.

X Q. 947. Did you say you were once in the employ of Merced County?

A. Yes sir.

X Q. 948. In what capacity?

A. Well, I have been employed a couple of times: once as County Surveyor and once as a special engineer.

X Q. 949. In what years were you County Surveyor?

A. From 1898 to 1902.

X Q. 950. And did you live in Merced County during that time?

A. Yes sir.

X Q. 951. When did you leave Merced County?

A. Well, practically in—I think it was 1903. My family has been away from Merced practically since 1903.

X Q. 952. In throwing up loose earth with the excavator, what slope will it naturally take in falling?

A. Well, that also depends upon the soil. Sand, damp,

1279 will take a very steep slope, better than 1 to 1. And many times one-half a foot on the horizontal to 1 foot vertical. And other material, heavier material, dependent upon whether there

is moisture in it, and the character of the material will take at least 1 to 1.

X Q. 953. Taking the land, the earth on an average, through the canals of complainant, what would they take?

A. They would easily take 1 to 1.

X Q. 954. They would take more, would they not? You say "easily 1 to 1?"

A. Yes, they would take as steep as 1 to 1.

X Q. 955. You think they would take as steep as 1 to 1?

A. Oh, easily, yes sir.

X Q. 956. On an average?

A. Yes sir. Yes, I think they would do that easily on an average.

Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. Mr. Henderson, in regard to this report of yours Exhibit R, in addition to the error on page 2 in regard to the earth excavation of China slough, and which you say should be 42,724 cubic yards instead of 8,268 cubic yards, I will ask you whether or not on page 3, the entry of 97,300 cubic yards is correct or an error?

A. Well, there is evidently an error in the copy. It should have been 87,833 cubic yards.

R. D. Q. 2. Then again on page 6 you stated on cross examination that you didn't know whether the 60 per cent was an error of the amount $661—which of the two was an error? Will you state?

A. The copyist has evidently made an error in writing 60. It should have been 90 per cent.

R. D. Q. 3. There is no error in the calculation of 90 per cent then?

A. No sir.

R. D. Q. 4. Now then, taking the errors in regard to the excavation of China slough on page 2, and the error you have indicated on page 3, what would be the amount to be added to the
1280 value of the earthwork in Fresno County? I will ask you if it is not the sum of $1,938.57?

A. $1,938.57, yes sir.

Mr. LANGHORNE: With your Honor's permission and counsel's permission we ask to correct this report.

Mr. TREADWELL: We will certainly object to any change in this report.

Mr. LANGHORNE: We will stand on it then. The record will show.

R. D. Q. 5. On page 102 have the totals been written in there? That is, the total cost of the structure, the total depreciation and the present value?

A. Well, they were written in yes, they were written in in pencil.

R. D. Q. 6. You have been cross examined in regard to the amount of earth excavation that you allowed in your report for this canal system, and I will ask you about what amount of water can the complainant's canals take in, and distribute in their canals, based upon the figures you have given in your report as to the excavation?

A. My judgment is that——

Mr. TREADWELL: Just a moment. We object to that on the ground that the witness has testified that he made no survey of the level of the canal or of the levels of the canal, therefore he cannot know the velocity of the water and obviously cannot testify as to the carrying capacity of the canal. There is no foundation laid.

The MASTER: I overrule the objection.

A. At least the outside canal would——

(By Mr. LANGHORNE:)

R. D. Q. 7. Please answer my question.

A. It is a pretty hard question to answer in just the way you framed it. I would say at least 1000 feet, 1000 second feet.

R. D. Q. 8. 1,000 cubic feet per second?

A. Yes, 1000 cubic feet per second.

R. D. Q. 9. Do these side gates referred to in your report in any instance include what is known as measuring gates?

A. Well, in the majority of cases, yes sir. They include
1281 the structure in the measuring gate in most all the cases.

R. D. Q. 10. About what percentage of the total structure of the canal reported by you consisted of these measuring gates?

A. Well, omitting two head weirs and main weirs there would be of the side gates about 20 per cent.

R. D. Q. 11. I asked you of the measuring gates?

A. The measuring gates? Do you mean of the whole?

R. D. Q. 12. Yes.

A. It would be pretty hard to give that.

R. D. Q. 13. Would you say that in the large majority of instances the side gates you have reported include these measuring gates?

A. Yes sir.

R. D. Q. 14. And how much then of the structures would these side gates embrace? About what proportion of the structures are the side gates?

Mr. TREADWELL: Do you mean what proportion of the structures of the canal?

Mr. LANGHORNE: Yes.

Mr. TREADWELL: That is a matter of mathematics, which anybody could figure up.

A. I would not want to give it.

(By Mr. LANGHORNE:)

R. D. Q. 16. What proportion of these side gates are included in the measuring gates?

A. About 20 per cent of the material in the side gates are for the measuring gates.

R. D. Q. 17. Are these measuring gates ever used in distributing and selling water by the acre?

A. Not that I can conceive.

R. D. Q. 18. In regard to the building of these canals by excavators and dredgers I will ask you whether you have had any experience in digging canals with excavators without dredgers?

A. Yes sir.

R. D. Q. 19. Where and when?

A. I don't know when. Covering at least 18 or 19 years.

R. D. Q. 20. And where?

A. In Merced and Madera and Stanislaus Counties, as I recollect.

R. D. Q. 21. And what was the cost per cubic yard for
1282 doing that excavation?

A. I think the average of the work would be along about 4 cents.

R. D. Q. 22. Four cents what?

A. 4 cents a cubic yard.

R. D. Q. 23. That is, with the excavator?

A. Yes sir, with the excavator.

R. D. Q. 24. And about how much canal work did you do?

A. A great many miles. It is impossible to estimate it, going on in years of different work.

R. D. Q. 25. Is the character of the soil any more difficult to move in those cases than it would be in regard to the complainant's canal?

A. In some of the soil that I remember it was similar soil. On the north bank of the San Joaquin, on the north bank of the Chowchilla that I estimated the cost of it, that I figured out the cost after it had been constructed, that work ran a little under four cents. The soil was very similar to the soil of complainant's canal.

R. D. Q. 26. Now then, have you done any canal work with the dredge without the excavator?

A. For drainage canal purposes, just as an engineer.

R. D. Q. 27. At what place?

A. Around in the neighborhood, the vicinity of Stockton and Twitchell Island, close to Twitchell Island.

R. D. Q. 28. Was that soil more or less difficult to move in comparison with the soil of complainant's canal?

A. Well, I should say it was a little less, a little easier to move than what the average of complainant's canal is.

R. D. Q. 29. And what was the cost of dredging those canals by the dredger process?

A. We calculated the cost based upon the rental of the dredger, that it ran a little under four cents also.

R. D. Q. 30. Four cents what?

A. A cubic yard.

R. D. Q. 31. Now in your report you have estimated the excavation at 5 to 6 and even 7 cents?

A. Yes sir.

1283 R. D. Q. 32. Why did you make it as much as that?

A. Well, it was a question of moving the dredger along in order to have plenty of work. You lose time in moving a dredger, and the amount of dirt that you move at one place is a factor of the increased cost.

R. D. Q. 33. Now then, you figured then on having how many dredgers?

A. Well, I figured on at least having the two main dredgers in pursuit of the work.

R. D. Q. 34. Could not the work have been done cheaper if you had had more dredgers?

A. I think that it probably could. There is a limit, though, either way. If you get too great a number of dredgers your cost will be greater than as if you had a sufficient number to operate on a certain quantity of work.

R. D. Q. 35. Now did you ever seek any employment by persons engaged or companies engaged in litigation with Miller & Lux or with the complainant canal company

A. No sir, not that I know of.

R. D. Q. 36. Has your employment always been at the instance of other people?

A. Yes sir.

R. D. Q. 37. Have you any animus against Miller & Lux or against the complainant canal company?

A. No sir.

R. D. Q. 38. Have you ever been employed by Miller & Lux?

A. Yes.

R. D. Q. 39. And this instance that counsel dwells so on, about the settlement of certain litigations in Nevada between Rickey and others, and Miller & Lux, did you go up there of your own accord, or were you sent for?

A. I was sent for.

R. D. Q. 40. Did you do anything on that occasion at your own instance, to endeavor to break up any proposed compromise of that litigation?

A. No sir.

R. D. Q. 41. What you did there was, as I understand it, to reply in answer to questions asked you by and under instructions from other people who employed you—is that correct?

1284 A. Well, all with but one exception. Mr. Frohman, I think, asked me certain acreage, and then I told him. That was the only exception.

R. D. Q. 42. You were asked how you proceeded in estimating your excavation in cases where the present banks of the canal were very low. Would you mind stating how you made those estimates in those cases?

A. Where the banks have been worn?

R. D. Q. 43. Yes.

A. My recollection in cases of that kind is that I took the cross

sections of the canal, of the cut—if I understand fully your question,——

R. D. Q. 44. Of the cut?

A. Yes sir.

R. D. Q. 45. And did not use the banks?

A. Not as I understand your question, no sir.

R. D. Q. 46. In what cases then, did you use both the banks and the cut?

A. Well, I used, where there was evidence that the cut was the proper form and should delineate the amount of excavation that had taken place, I used the cut. Where there was no other method by which you could arrive at it, and the cut did not delineate the true conditions, I used the bank.

R. D. Q. 47. Could you give an illustration of a cut or cross section of the canal showing why it was better engineering practice to estimate the bank than to estimate the cut?

A. Well, for instance, take a place where the cut far exceeded the banks and where if you took and placed the—well, assuming that the grade of the inside slope of the bank extended upward to such a height as to contain one-half of the amount of earth that would be shown in the excavation, why, it would then produce in some cases that I had to deal with, a bank at least twice if not three times as great as the present bank. And in the lack of any evidence of this dirt having been wasted or spilled upon the ground, why, the only method by which you could arrive at it was the banks. I didn't assume, though, that the banks had washed on the inside. If we assumed that some of the dirt that had been originally in the bank had washed away in some cases where the water had undermined the bank, why then a part of the so-called present cut
1285 in those instances would have been situated under the bank, and as in a majority of cases the inside slope of the bank seemed to be intact, why, I simply had no other method of arriving at the correct condition except taking that which was in the bank and allowing what I considered a reasonable shrinkage, with the exception of some places on the outside canal, where the conditions were the reverse, where I used the cut. In those cases I found frequently the banks were small and did not represent as much of the cut, but the side ditch which parallels the outside canal had been partially constructed from the material which was excavated from the original cut, made in the outside canal. It is impossible to tell to what extent that was carried on. I know that it was carried on in some instances, but to just what extent it is impossible to tell, so I took the cut in those instances.

R. D. Q. 48. As a matter of fact, do you remember your testimony yesterday? In that testimony you said you used the cut or the actual excavation to a very large extent in making up your estimates, did you not?

Mr. TREADWELL: We object to that as calling for a conclusion. The witness has stated the facts. Whether it was to a large extent or to a small extent, is a conclusion.

(By Mr. LANGHORNE:)

R. D. Q. 49. There were cases, then, were there, where the inside of the bank had been undermined or washed away?

A. In a few instances, yes sir, to a limited distance.

Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. Referring to your estimate of 1000 second feet which these canals could carry, on the estimate of the excavation which your report shows, I will ask you what amount they would carry through the head at the river to the junction with the outside canal?

A. Well, of course I would rather look it up, if you want an absolute measurement there, but I should say at least 1300

1286 feet.

R. X Q. 2. And the main canal from its junction with the outside to the parallel canals?

A. Well, 800 feet. I should judge perhaps that amount. Perhaps over 800.

R. X Q. 3. And the Dos Palos canal?

A. What part of it—just the upper sections of it?

R. X Q. 4. Yes, just the upper sections of it.

A. Easily from 150 to 225.

R. X Q. 5. And the outside canal down to Los Banos creek?

A. I should judge from 275 to 375.

R. X Q. 6. And from that to the end?

A. Well, from 150 to 250, I should think. It does not taper off exactly at one point. It gradually decreases.

R. X Q. 7. And now the parallel canals down to Los Banos creek?

A. Well, that would only be simply an estimate, from my mind, of the situation. I don't recollect the measurements exactly, but I should think from 400 to 550.

R. X Q. 8. And the main canal from Los Banos creek to the end?

A. From 150 up to—well, up to 350.

R. X Q. 9. Are those based on your measurements?

A. Just on my memory of the matter. Of course, the better proposition is to actually go in the field and make an examination of it. But that is just as the measurements come to me now.

R. X Q. 11. Now, figuring the construction of these canals in the way that you have figured that they could be constructed, and using the two dredgers, how long would it take to construct them from the time you started to build the headworks until you completed them?

A. All of the system?

R. X Q. 12. Yes.

A. I would figure that the works should be completed within a year and a half to 2 years.

R. X Q. 13. You would have to begin the building of the weir in the first place, would you not?

A. Well, not necessarily. A temporary dam could be put in.

R. X Q. 14. I mean, you would have to put in some kind of a dam or weir in the river?

A. Yes sir, a temporary structure.

1287 R. X Q. 15. If you put in a temporary dam you would simply have to construct it with—merely a temporary structure.

A. Merely a temporary structure.

R. X Q. 16. You would have to put in one that was adequate to divert the water required for the canals, or else you would have to take it out after you had got the canals ready for use?

A. I might not have to take it all out. I might have to remove the upper part of the bank up the level with the river.

R. X Q. 17. You could not begin that until the water went down the river about the 1st of October or possibly the 1st of September?

A. For building the dam?

R. X Q. 18. Yes.

A. No, of course, you could commence to make your canal any time during the winter or spring or summer, in high waters, because the river would be sufficiently high to run out during those periods.

R. X Q. 19. How long have you figured it would take to build that weir?

A. Oh, I should imagine the weir could be built in 4 or 5 months easily; three or four months.

R. X Q. 20. Now you stated that at one time you were employed by Miller & Lux—when was that?

A. Well, more than one time. I don't recollect exactly, some of the work was done jointly between the Chowchilla people and some for Miller & Lux individually.

R. X Q. 21. Wasn't it work that Mr. Bird of the Chowchilla was interested in?

A. It was this way. Mr. Treadwell, your father, employed me at one time or twice, if I recollect right. Then Mr. Nickel, I think it was Mr. Nickel or either McCray who employed me. Mr. McCray at that time was your chief engineer.

R. X Q. 22. Now, was not that work with the Chowchilla Canal Co.—was not that the work that the Chowchilla Canal Co. was interested in?

A. Well, I don't recollect. It seems to me the title of the cases were Turner against Jeff James, or the Canal Company against Jeff James, or the Enterprise Canal.

1288 R. X Q. 23. Did you testify in those cases?

A. Yes sir.

R. X Q. 24. And that is your recollection?

A. That is my recollection. I could look it up and tell just when I was there.

R. X Q. 25. How long ago was that?

A. Why, I think the first case was in 1901, if I recollect right.

R. X Q. 26. Now you have stated that what you did up in Nevada was—or what you were doing was under the direction of the people that employed you, as I understand your answer to counsel. You

were not employed by anybody in that case except Thomas B. Rickey, were you?

A. Why, yes sir, I was employed by the Mason—I don't know the name; the Mason Valley Water Association, if I recollect the name.

R. X Q. 27. You were employed by them?

A. Yes.

R. X Q. 28. Could you tell just when you started?

A. That employment was along—I think it was about July of last year, if I am not mistaken.

R. X Q. 29. At any rate it was while the protest was pending against Miller & Lux's appropriations?

A. Yes, that is my memory now.

R. X Q. 30. They knew that you represented Mr. Rickey at that time, didn't they?

A. The Mason Valley people?

R. X Q. 31. That you were employed by Mr. Rickey?

A. They knew that I had been employed by Mr. Rickey.

R. X Q. 32. And their claims were adverse to Mr. Rickey's?

A. I don't know that they were.

R. X Q. 33. And still you say that you never gave them any advice as to whether they should settle their differences with Miller & Lux, or whether they should not?

A. Well, I don't know that I fully understand what you mean by that. If they asked me if such and such a ditch would cover such and such acreage, I answered according to my survey, and to that extent my advice or information, as it may be termed, was limited to such advice as that.

1289 R. X Q. 34. But the amounts that you told them that Miller & Lux had diverted or could divert through certain ditches was less than the amount that the state engineer had allowed Miller & Lux?

A. In some instances I remember that question was asked in that way, and in some instances it was found to be less.

R. X Q. 35. And did you also tell them the amount of land that the survey you had made for Mr. Rickey showed that Miller & Lux had irrigated?

A. Yes sir, I think so. I don't think that I came down to an absolute figure, but generally.

R. X Q. 36. You told them in a general way?

A. Yes sir.

R. X Q. 38. And how much less or more was that than the amount allowed Miller & Lux by the State Engineer and claimed by Miller & Lux on that hearing?

Mr. LANGHORNE: The witness tells me that the Rickey case has not been tried, and the witness is employed by those people. If counsel in this case should be allowed to go into those matters, it would put the witness in an unpleasant position, and I object to it on the ground that it appears—I will ask the witness:

Q. I suppose the litigation that Mr. Treadwell refers to between Miller & Lux and Rickey is pending in the courts?

A. Yes sir.

Q. Are you one of the engineers employed in that matter by Mr. Rickey?

A. Yes sir.

(By the MASTER:)

Q. Is there any reason why there should be any secret of any fact?

Mr. LANGHORNE: I don't know anything about it, more than what the witness has told me.

The MASTER: I asked the witness, is there any reason why there should be any secret as to any of the facts which you have acquired in your employment?

A. Not that I know of, any further than it is not customary for engineers to tell the results unless it is necessary.

(By Mr. TREADWELL:)

1290 R. X Q. 39. Did you get Mr. Rickey's consent to tell those people what you did tell them?

A. I had his instructions to do it.

R. X Q. 40. When did you get his instructions?

A. At the time the work was done.

R. X Q. 41. As I understand your testimony, Mr. Rickey is one of the biggest claimants on Walker river?

A. Yes sir.

R. X Q. 42. And he is up above all of these Mason valley people on the main Walker?

A. Yes sir.

R. X Q. 43. And all of those people are disputing—or were disputing each other's appropriations in those suits—that is correct, isn't it? You don't know a single one that admitted a single right of any other party?

A. I have never heard it mentioned other than the question that the suit was of the Pacific Live Stock Association, the complainants.

R. X Q. 44. You did know that Miller & Lux and every other water user on that river with the exception of Thomas B. Rickey had entered into a stipulation that they would get together and settle their rights between themselves through the State engineer, and that then they would all fight the claims of Thomas B. Rickey together?

A. No, I never heard that statement before.

R. X Q. 45. You never knew that?

A. Just a moment. Let me finish my answer to your question. You said I knew they had entered into that stipulation. I never knew that they had all entered into it, and I never knew that they had agreed with Miller & Lux to fight T. B. Rickey. I never heard that statement before.

R. X Q. 46. You knew that they had all, substantially all of them? At any rate, that substantially all of them had signed that agreement, which was for the purpose of settling their rights be-

tween themselves, and you knew that that did not include Mr. Rickey?

A. I didn't know that it was to fight Miller & Lux. I thought they were to join Miller & Lux and fight Rickey. I didn't
1291 know that.

R. X Q. 47. I will withdraw that. I will ask you this: But you did know that they had all entered into an agreement for the purpose of settling up their rights and that Mr. Rickey was not included in that settlement—you knew that?

A. I knew that the majority had; I never knew that they all had

R. X Q. 48. You knew that that was the result?

A. To settle and adjust their claim.

R. X Q. 49. And you knew that Mr. Rickey's interests were still in court and subject to be determined by that suit?

A. Yes sir.

R. X Q. 50. And you knew that they were contested—you knew that, that his rights were contested by the other water users on the river?

A. No sir. Of course, I don't recall to mind any suit between those people and T. B. Rickey. It might have been filed and I might have reason to know it, but I don't recollect it, or any other individual suit between T. B. Rickey and the Mason valley people.

R. X Q. 51. You knew that in the suit filed by Miller & Lux against T. B. Rickey, that it was to settle the differences between Miller & Lux as to their rights and T. B. Rickey as to his rights?

A. Yes sir.

R. X Q. 52. Didn't you know that T. B. Rickey had filed another suit against those same people in the State Court, I believe, of California, in Mono County where he lived?

A. I have a faint recollection of it.

R. X Q. 53. Don't you know that he had attempted to have that case take precedence of the case in the Circuit Court of Nevada, and had gone to the Supreme Court of the United States for that purpose?

A. I don't think I was familiar with that litigation.

R. X Q. 54. Didn't Mr. James F. Peck ever tell you that he had appealed the Rickey case to the Supreme Court of the United States?

A. Not that I know of.

R. X Q. 55. You never knew he had?

A. I don't recollect it.

1292 R. X Q. 56. You don't recollect ever hearing of it?

A. I don't recollect it. I know that there was considerable litigation going on. I never was interested in it.

R. X Q. 57. At any rate, with things in that condition Mr. Rickey told you, as I understand it, that you could go and tell those people anything that you had found where you were in his employ in making those surveys for him?

A. Anything that I had what?

R. X Q. 58. Any information that you had got by means of the surveys that you had made while in his employ. Is that correct?

A. Yes sir; Mr. Rickey's instructions were that I was to give them the result of the survey.

R. X Q. 59. Now in regard to those measuring gates, where you are selling water by the acreage, it is necessary for the company, in some way to keep track of the number of acres irrigated by each party, in order to make up those accounts, is it not?

A. You said by the acre, did you?

R. X Q. 60. Yes sir.

A. Yes sir.

R. X Q. 61. And as a matter of good business judgment and of the proper use of a canal, every company should in your judgment, try to compel every person, within reasonable limits, to use water as economically as possible, and use as little of it as reasonably can be used to accomplish the results?

A. Well, as you state that, I would say yes directly to your question, as an answer, and then I would qualify that answer by saying that it includes a great many other conditions, simply as a matter of explanation in case it would be called up again. The point is this: that it would entirely depend upon whether the land and the crop raised would warrant the economical handling of the water.

R. X Q. 62. Of course, as to whether a thing is economical would depend to some extent on the character of the land, the character of the irrigation, the crops to be raised, the profits to be made, and things of that kind?

A. Yes sir.

R. X Q. 63. Of course, the same kind of economy cannot
1293 be practiced on every kind of land or in every kind of situation? I understand that is what you mean?

A. Yes sir.

R. X Q. 64. At the same time, every rule that you know of that is applicable to the use of water in the San Joaquin valley is all aimed at the preservation of the water and the using of it as economically as possible?

A. Yes sir.

R. X Q. 65. That should be the ultimate object?

A. That should be the object, yes sir.

R. X Q. 66. Now it would be, therefore, very valuable to a company to be able to check up the acreage that a party had actually irrigated by knowing the amount of water that they had delivered him, would it not?

A. Well, of course, I don't see the relation. I don't see how you are going to check unless you knew just what the duty of water on that particular class of crop would be, the conditions under which his land was irrigated, whether it was level or rough, whether for grass purposes or alfalfa or vineyard or trees; you would have to know of course, the duty of the water for that tract before it would be of great value. In a general way it would be of assistance.

R. X Q. 67. Of course, you might not be able by knowing the amount you delivered to any person, exactly what he had irrigated; but on the other hand it would be a material check on determining that question.

A. Yes, knowing the condition of the soil, etc., it would be.

R. X Q. 68. Now every discharge gate in a way can be used as a measuring gate, can it not, Mr. Henderson?

A. Well, provided it has sufficient length.

R. X Q. 69. Yes.

A. So as to keep the water within reasonable quietness, &c. it may be used.

R. X Q. 70. And this measuring device that the complainant has put on this canal is a much more elaborate and systematic
1294 and careful method of measuring than an ordinary discharge gate, that is true, is it not?

A. It is an improvement, a considerable improvement on the ordinary weir measure.

R. X Q. 71. In regard to this 20 per cent, as I understand you, you mean that the 20 per cent of the entire structure as you found it with this measuring device might have been saved if there was no measuring device there—is that what you mean—except the ordinary method of measuring?

A. Well, it appeared to me, what I based my 20 per cent on, as a matter of judgment, was that the gate had once been constructed, and to this had been added different lengths of—the gate had been lengthened out; and taking into consideration the necessary labor and lumber and the lengthening out of the original box and the placing of these gates and the locks and the necessary hardware, I estimated in my mind about 20 per cent.

R. X Q. 72. So you did not mean that the additional contrivances on that box for the purpose of making those measurements amounted to as much as 20 per cent of the structure, but you included in that the fact that some of the boxes are now made larger than what they previously were?

A. I know this, that they had been rebuilt, that is, extended. One box is of a certain age and the new part is of more recent structure, extended.

R. X Q. 73. Now you say that some of the excavation work in the extension of the canal for the California Pastoral & Agricultural Co.——

A. I never said the California Pastoral & Agricultural Co.

R. X Q. 74. What canal was that?

A. I don't think it has any name; just one of the canals on their ranch.

R. X Q. 75. Where is it?

A. It runs through—one of them is up in the Syphon field.

R. X Q. 76. And the other one?

A. The other work I think is in the Monte and I think
1295 that they let it run through several fields.

R. X Q. 77. Now when did you complete the one in the syphon?

A. In 1902 or 1903.

R. X Q. 78. And the one in the Monte?

A. I have forgotten. There were two extensions of that. I think part of it was the same year or perhaps the year before.

R. X Q. 79. What kind of an excavator did you use to do that work with?

A. I cannot recollect just the one. I think it was the Era, the Era type.

R. X Q. 80. What did you include in determining the expense of excavating?

A. The blacksmithing, the stock, rental of stock, feed of stock, depreciation of machinery, interest on the machinery; this interest on machinery I termed as rental; and all the labor and engineering and supervision. I included all the expenses, all actual expenses plus the interest on the investment and depreciation.

R. X Q. 81. How large a canal was that you built up there?

A. On the bottom?

R. X Q. 82. The whole thing, length and everything?

A. I could not tell you off-hand; a number of miles of levee. I could not tell you just how long it was. In connection with the first work we reconstructed quite a distance of the Chowchilla canal. I think that there must have been several miles of that. I would have to look it up.

R. X Q. 83. Now the excavator, whom did it belong to?

A. The Chowchilla ranch.

R. X Q. 84. You found it there on the ranch?

A. It belonged to the ranch, yes.

R. X Q. 85. The blacksmithing, did you use the blacksmith on the ranch?

A. Yes.

R. X Q. 86. The stock, you used the stock that was furnished by the ranch?

A. Yes, we used their stock.

R. X Q. 87. And whatever you used of it, that was right 1296 there on the ranch?

A. Yes sir.

R. X Q. 88. And the labor, what did you use? The farm hands that you had there?

A. The regular ranch hands.

R. X Q. 89. Just the regular ranch farm hands?

A. Yes, except that we had a man that was familiar with the work, with that class of work.

R. X Q. 90. And your depreciation of the excavator—in that you simply used your judgment to estimate it?

A. Yes.

R. X Q. 91. And the value of the excavator, how did you estimate it?

A. At the purchase price.

R. X Q. 92. You took the purchase price?

A. Yes sir.

R. X Q. 93. Do you know the purchase price of that excavator?

A. Our time keeper told us what it was.

R. X Q. 94. And did you make any written report of that expense?

A. No sir, I think not. I don't recollect that. I don't think that was asked.

R. X Q. 95. Did you include anything in that for the man that did the work?

A. Do you mean profit? Well, if you consider interest on the excavator profit.

R. X Q. 96. Outside of that, you did not allow any profit?

A. No, outside of interest on the outfit. Of course, the time, the per diem, the amount allowed for horses—that was all included. You might term that profit. Presumably it would be profit.

R. X Q. 97. Now in the dredging for a drainage ditch that is on overflowed land, was it—those islands?

A. Yes, on land overflowed.

R. X Q. 98. What kind of a dredge did you use there?

A. It was a Clamshell.

R. X Q. 99. Did you ever make any written report as to the cost of that work?

A. Well, I think only in a general way, the same as the Chowchilla was. I have a faint recollection that I did return the memorandum, not a written report. Especially in the case of
1297 the dredger I don't believe there was a written report.

R. X Q. 100. And what part did you have to do with this dredge?

A. Simply laid out the work.

R. X Q. 101. You were simply the engineer?

A. Simply the engineer.

R. X Q. 102. Was it let by contract?

A. No, it was $120 a day I believe, the employment of the dredger.

R. X Q. 103. Simply the rent for the dredger?

A. That is my memory. I could not now be sure.

R. X Q. 104. Do you know how much the dredger was worth?

A. No, I do not. I have of course, an idea as to what dredgers are worth, but I don't remember what that particular dredger cost.

R. X Q. 105. Did that include anything but the use of the dredger?

A. That included the working of the dredger for 24 hours. It included all the men.

R. X Q. 106. It included the men to run it?

A. It included the men to run it, and the only additional expense was the surveying, and I believe the levees were harrowed smooth.

Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. On cross examination, Mr. Henderson, with reference to your testimony in the Turner case you stated that in that case you gave as your estimate of the duty of a cubic foot of water on the Asbury field from 30 to 40, acres and on the Mitchell field 35 to 50 acres, and on the Stevinson ranch from 30 to 40. Will you state what the actual conditions were there, in regard to those fields?

A. Those fields have been checked by building large checks across

the fields, but the surface of the fields has never been leveled. They run in some instances into deep ravines across them. Levees have been built and in some instances there has to be 4 or 5 feet of water placed in front of the check in order to flood the field. That
1298 is probably the most extravagant use of water.

R. Q. D. 2. Then the better a field is leveled and checked the less water it takes to irrigate—is that the idea?

A. Yes, certainly.

R. Q. D. 3. Now then, that was according to your testimony for wild grass land?

A. Yes sir.

R. Q. D. 4. Does that take more water to the acre than for alfalfa or cultivated crops?

A. Well, it takes more because it is not prepared in as careful a manner as ordinary alfalfa fields are prepared.

R. Q. D. 5. Now then, in regard to that same casee, I think your testimony was that in the Stevinson ranch it took about a hundred acres to the cubic foot of water per second. Was that any better checked off or prepared than the wild grass lands?

A. Yes. Some of it had been fairly well leveled; some was not.

R. D. Q. 6. Now in regard to the cultivated lands irrigated from the canals of the complainant's system, how were they with regard to being leveled and checked?

A. Some of them were leveled, and there were lands that could be covered by the canal that were not leveled. But the small owners in the majority of cases, their land is prepared for irrigation by leveling and checking.

R. D. Q. 7. Now in your report on page 2, your Exhibit R, I notice that a portion of the excavation is China slough 42,724 yards; then lower down under the head of "Main Canal" you have got "Number of yards given on main canal natural slough," and I will ask you what about that slough in regard to whether it is a natural water course?

A. Well, the China slough of which this is a part, is supposed to be a natural water course.

R. D. Q. 8. Does that account for the comparatively small amount of excavation you have given there on page 2?

A. Yes sir.

1299 Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. The amount of excavation that you give in this last item is the estimate that you give of excavation below the natural condition of the soil, I suppose,—that is, 628,125 yards?

A. That is a peculiar question. I took the bank for it.

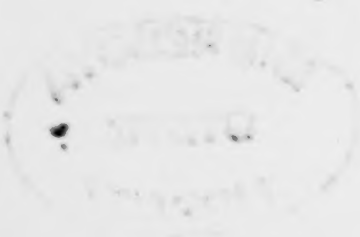
R. X Q. 2. Well, that is the amount then, of your estimate of the artificial excavation?

A. Yes.

R. X Q. 3. As distinguished from the natural slough, I suppose?

A. Yes sir.

(Further hearing adjourned until Friday, March 19, 1909, at 2 P. M.)



Vol. II.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1912.

No. 303

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED, APPELLANT,

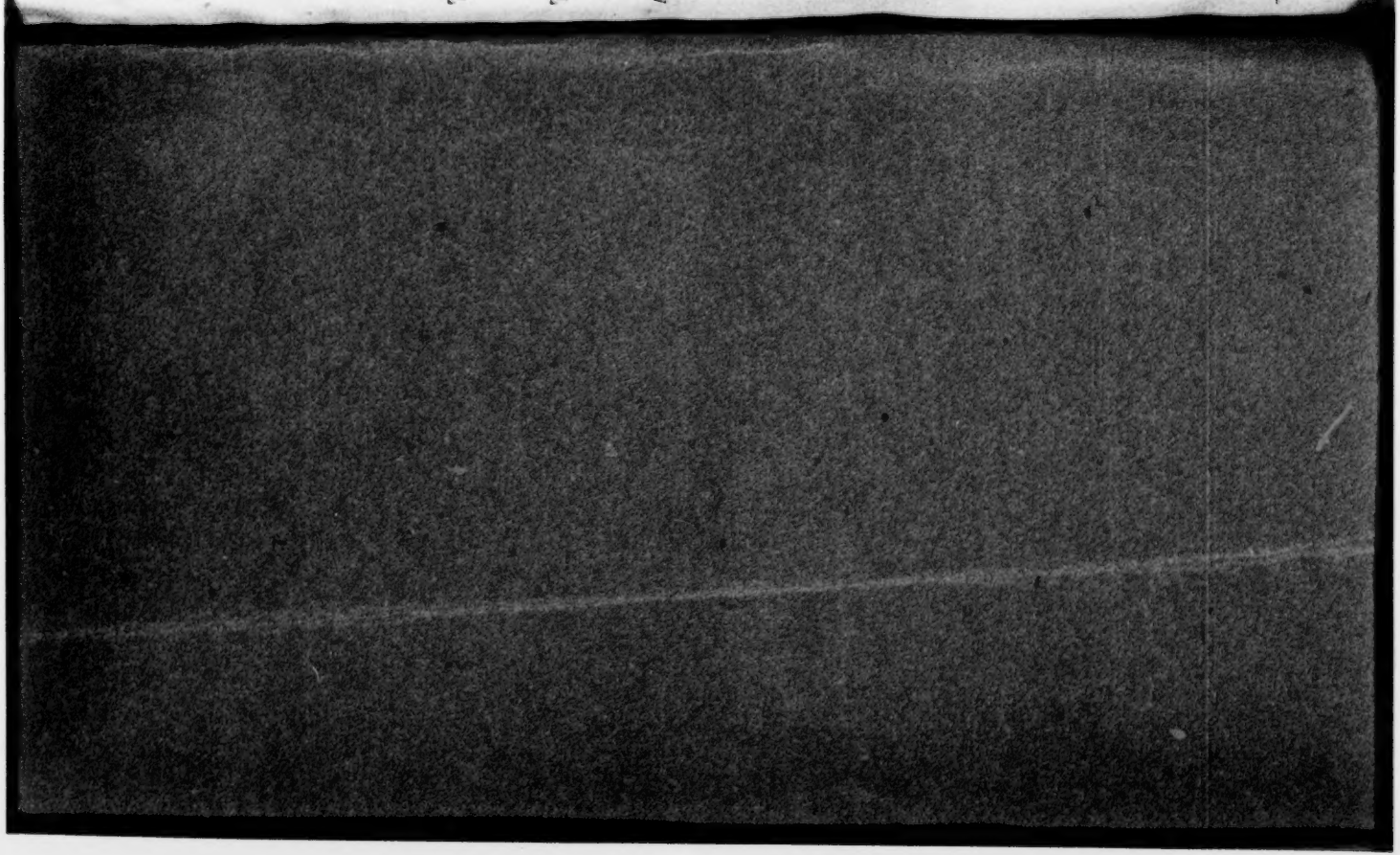
vs.

THE COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA, ET AL.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF CALIFORNIA.

FILED JULY 16, 1912.

(23,297)



(23,297)

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1300 MONDAY, *March* 22, 1909—10 a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Laughorne, Esq.

Mr. TREADWELL: As part of the cross examination of Mr. Henderson I wish to read into the record the following testimony by Mr. Henderson given on cross examination in the case of Elizabeth Turner and the Las Animas & San Joaquin Land Co., Incorporated, against The Eastside Canal & Irrigation Co., in the Superior Court of Merced County, beginning at page 3411 of the transcript of testimony in that case. (Reading.)

Q. Well now, taking your knowledge of canals generally, Mr. Henderson, do you believe that a 25 per cent loss, take 25 per cent of the water put in, in 17 miles, do you know any other canal that has as much, a loss equal to that?

A. Yes sir, greater.

Q. Where is it?

A. At Stockton.

Q. What kind of land does it run through?

A. Sandy land.

Q. All the way?

A. Well, not all the way, no; it runs through both characters of soil, what is generally called gumbo soil, and the upper part, about six miles, I guess, runs through sandy soil.

Q. How much do you think the loss would be, taken as a whole, in the canals of the San Joaquin & Kings River Canal & Irrigation Company?

Mr. PECK: Well, that is a pretty broad question. We object to that unless he has made some measurement to determine, or calculation. It would be the barest guess. Do you mean including the outside canals?

Mr. E. F. TREADWELL:

Q. The whole system.

A. Each one carrying water at the same time?

Q. Yes.

A. Clear to what point?

Q. From one end to the other.

A. Well, that is a pretty broad question to ask. I don't believe I would want to give you an opinion on that now. I would rather look it up and give you an opinion based on some kind of calculation, not a guess.

Also beginning at page 3415 (Reading):

Q. You have got a fairly good head of water, then, but now can't you lay down any rule as to the per cent per mile that ought to be lost in a canal in good condition in running through land of that character, per mile?

A. Well, from the observation we made, it would probably run from one to one and a half to two per cent.

Q. Well now, don't you think, as a matter of fact, that one per cent a mile is a pretty good loss in a canal that is in good condition and has got a proper grade, and clean?

A. Well, of course, there are a number of canals that are in almost—some of them in the same class, practically the same class of ground that, if my memory serves me right, some measure-
1301 ments showed that they were pretty close to 2½ per cent loss, in the same region, that is, in practically the same class of ground and same country.

Q. Well that may be, but I am asking you on this particular canal.

Mr. PECK: I understand the last answer was about another canal.

The WITNESS: Yes, I didn't apply it to this canal.

Mr. E. F. TREADWELL: I say, suppose you have a canal, well built, what you consider a well-built canal, through land of this character, with proper grade, constructed on proper principles in every way, and properly maintained and cleaned, don't you believe that that is altogether too high a loss, 2½ per cent a mile, and don't you think that about 1 per cent a mile would not be too little?

A. Well, the character of the soil, of course you somewhat compare the character of the soil conditions, as I told you. If the bottom of the canal reaches hardpan, my observation, actual observations, have been that the loss during sections of the canal where hardpan is at the bottom of the canal, or at least, the canal is cut to such a depth that it reaches the hardpan, that the loss, during those sections where the water can reach the contact between the two classes of earth, that the loss would be materially greater. As an example of that, in the Chowchilla, there were some sections where in the examination of that, it ran perhaps over two and one-half per cent, very close to three per cent to the mile.

1302 Examination-in-chief of CHARLES H. DASHER. Called for defendant; sworn.

By Mr. LANGHORNE:

Q. 1. Where do you reside, Mr. Dasher?

A. Oakland, Alameda County.

Q. 2. What is your occupation?

A. Machine salesman for Henshaw Bulkley & Co.

Q. 3. Where is their place of business?

A. In the City and County of San Francisco.

Q. 4. How long have you been employed by them?

A. Approximately 7 years.

Q. 5. What business are they engaged in?

A. They sell all classes of machinery and I particularly sell contractors' machinery.

Q. 6. Do you sell contractors' machinery particularly with reference to excavating machines?

A. Yes sir; we sell the two makes of elevating graders, that made by the Washington Manufacturing Co. and the one made by the Western Wheeled Scraper Co.

Q. 7. Are those graders that you speak of suitable to be used for excavating canals?
A. Yes sir, they are.
Q. 8. Have you or your firm sold them for that purpose?
A. Yes sir.
Q. 9. And you know that they are used for that purpose?
A. Yes.
Q. 10. Now you say the Era excavator——
A. The New Era.
Q. 11. What is the name of the other one?
A. The other one is known as the Western Giant.
Q. 12. Is there another besides the New Era?

Mr. TREADWELL: He didn't say he sold the New Era.

A. That one made by the Washington Manufacturing Co. is familiarly known as the New Era.
Q. 13. Then the Western Giant.
A. The other one made by the Western Wheeled Scraper Co. is the Western Giant.

1303 (By Mr. LANGHORNE:)

Q. 14. What are the capacities of those graders with reference to the amount of cubic yards of earth excavated per day?

Mr. TREADWELL: We object to that question on the ground that it calls for an opinion of the witness. No proper foundation has been laid for it. It does not appear that the witness has ever used the graders or either one of them, or that he has any information of his own knowledge as to the amount that they will remove.
Mr. LANGHORNE: I will withdraw the question for the present.

Q. 15. Have you seen the graders work?
A. I have, yes sir.
Q. 16. Do you know what their capacities are with regard to excavating earth?
A. I know that particularly, referring to the Western Giant, that it will handle——
Q. 17. Just answer the question.

Mr. TREADWELL: Answer the question asked. He has not asked you what it will do. He wants to know what you know about it.

A. Yes, I have run the Western Giant grader.

(By Mr. LANGHORNE:)

Q. 18. What amount of cubic yards of earth per day will the Western Giant move?

Mr. TREADWELL: I wish to cross examine the witness as to his information before that question is answered.
Mr. LANGHORNE: I don't see why you should cross examine him. He said that he knew what they would remove, and what they would do.
The MASTER: I think counsel desires to cross examine him to test

the information of the witness. He could do it later, of course, but it is often done in this way, and I will permit him to do so.

(By Mr. TREADWELL:)

Q. 19. You say you have seen the Western Grader used. Where have you seen it used, Mr. Dasher?

A. In Santa Clara County, right near Mayfield; at all events I believe it is in Santa Clara County.

1304 Q. 20. At what place?

A. It was on a tract of land that the Leland Improvement Company were improving.

Q. 21. Now it was being used, was it, in the laying out of the streets, I suppose?

A. It was particularly used in digging a ditch, but I did not use it for that purpose.

Q. 22. What were you doing there?

A. I was simply testing the traction engine that was pulling the machine.

Q. 23. And how long were you there?

A. I ran that machine two half-days.

Q. 24. And you were there testing the machine that was pulling and not the grader itself?

A. Well, I actually ran the grader itself so as to test the machine.

Q. 25. You actually ran it two half-days? Now what measurements did you make to find out how much earth was excavated at that time?

A. I roughly calculated it from the depth at which the plow was ploughing and the width we cut, that it was making an approximate rate of travel of the engine—my estimates were purely approximate estimates.

Q. 26. And outside of that, when have you ever operated one of the New Era excavators?

A. That was the only time that I ever actually operated a machine.

Q. 27. And the Western Giant, when did you operate that?

A. That was the machine I had reference to; not particularly the New Era machine. I never operated the New Era machine.

Q. 28. It was the Western Giant that you operated at Leland?

A. Yes.

Mr. TREADWELL: Now we object to the question, your Honor, on the ground that it calls for a conclusion of the witness in a matter as to which the witness does not appear to have any peculiar expert knowledge, but at most would only have the ability to testify as to what a particular dredger or a particular excavator did in a particular number of hours. He would have no ability to testify as to what could be done regularly by such an excavator counting the

1305 time it would take to oil and repair and fix the breaks in it, and things of that kind, in a long protracted piece of work.

Mr. LANGHORNE: Here is a witness who has been engaged in that business 7 or 8 years and his business is selling these machines, and to satisfy himself that they would do the work that they claimed

for them, he has made a study of them. He is also ready to testify that he has seen them in operation, and has actually operated some of them himself. It would be rather a remarkable proposition if he could be in business all this time and selling these machines and in constant observation of them and would not be qualified to testify in regard to them when he had been constantly observing whether they would do the work claimed for them.

The MASTER: I will take the testimony.

(By Mr. LANGHORNE:)

Q. 29. How many cubic yards of earth a day will these machines move?

Mr. TREADWELL: We make the same objection.

A. They will move at least 1000 cubic yards per 10 hour day.

(By Mr. LANGHORNE:)

Q. 30. Is that the minimum or the maximum?

A. That is the minimum.

Q. 31. What sort of soil do they operate in?

A. In any sort of soil that a plow will turn a furrow in. It won't handle loose sand or it won't handle heavy rocks. Any sort of soil that a plow will plough in and turn a furrow in, the machine will handle the earth.

Q. 32. Now in soil which is composed mainly of loam, what is known as loam, and in some instances of adobe, about how many cubic yards per day would it move?

Mr. TREADWELL: We make the same objection.

A. They will handle at least 1000 cubic yards per 10 hour day.

Q. 33. Do they ever go over that?

1306 A. Reports have been made to me that they have gone over that. I have never seen it tested in that way myself, but I have heard from those that I have sold the machine to, that they had gone considerably over it.

Mr. TREADWELL: I move to strike out the answer on the ground that it is hearsay.

Mr. LANGHORNE: I think the witness's testimony is competent in reference to machines that they have sold to persons that have made these reports.

Q. 34. Is that the only man that you can testify to that you ever heard say that?

A. It is.

Q. 35. What is the cost of these machines?

A. The New Era grader is $1250 and the Western Giant is $1750.

Q. 36. Do these machines excavate a canal, say, for irrigation, 55 feet wide and 7½ or 8 feet from the bottom of the cut to the top of the bank?

Mr. TREADWELL: We object to that on the ground that the witness has not shown that he has any knowledge as to what they

would do. He has never excavated any such canal or seen it excavated by them; that it is simply the opinion of the witness on a subject as to which he is not competent to testify.

Mr. LANGHORNE: I submit that he has established his competency to testify, from his previous testimony.

The MASTER: I understand that counsel for complainant desires to have his objections of record?

Mr. TREADWELL: Yes sir.

The MASTER: I overrule the objection.

A. The Western Giant will excavate such a canal.

(By Mr. LANGHORNE:)

Q. 37. I will ask you if these machines can be enlarged to excavate large works or canals

Mr. TREADWELL: I object to that question on the ground that it does not appear that the witness is an expert as to the construction or engineering features of these instruments, and that it does not appear that he has any ability to testify as to what could be done as to some machine which never has been manufac-
1307 tured, so far as the testimony of this witness shows.

Mr. LANGHORNE: I will withdraw that question.

Q. 38. I will ask you, Mr. Dasher, are you familiar with the construction of these machines

A. Yes sir.

Q. 39. Is more than one sized machine made?

A. Yes.

Q. 40. Now that machine that you have been talking about here, the New Era grading machine and the Great Western, has that any number or designation indicating its size or capacity?

A. Well, the principal difference between the two machines comes in the length of the elevator, and that is what gives the Western Giant its capacity to excavate a larger ditch than the New Era, because it has a longer elevator.

Q. 41. You say there are different sizes made? You have been testifying about a machine that costs $1200?

A. And the Western Giant costs $1750.

Q. 42. What is the other?

A. The New Era cost $1250; with the shorter elevator.

Q. 43. Now then, if necessity arose could those machines or either of them be made of larger dimensions for the purpose of special work?

Mr. TREADWELL: We make the same objection, that the witness has no ability to testify as to what could be done.

A. I can qualify as a mechanical engineer, if you wish.

Q. 44. Are you a mechanical engineer?

A. Yes sir.

Q. 45. How long have you been a mechanical engineer?

A. Ever since I left college, in 1896.

Q. 46. What college was that

A. The University of California.

Q. 47. You graduated there as a mechanical engineer?

A. I took a course there in mechanical engineering. I did not graduate. I left in my senior year because of financial reasons.

Q. 48. You have practiced that profession, have you?

A. Yes sir; as a mechanical engineer and draughtsman and
1308 designing machinery.

Q. 49. Was the concern that you are with, handling these machines—have they sold many of them in California?

A. Within my knowledge in the last six years, 16 of them.

Q. 50. Do you know whether any of those machines sold by your firm are engaged in excavating canals?

A. I know of three that I personally sold that went for that purpose.

Q. 51. Do you know whether they were successful in their operations in digging canals?

Mr. TREADWELL: We object to that on the ground that it does not appear that the witness knows anything about it of his own knowledge other than he got from hearsay. It also calls for a conclusion as to what would be deemed a success.

A. I know that they were successful, two of them particularly.

(By Mr. LANGHORNE:)

Q. 52. Have you seen any canals or work of that nature done by any of these machines?

A. Well, I have seen the canals that the operator said had been excavated with that machine. I have not seen one of them actually excavating the canal.

Mr. TREADWELL: I move to strike that out as hearsay.

(By Mr. LANGHORNE:)

Q. 53. Was the machine sold to those parties for that purpose?

A. Yes sir.

Q. 54. And you afterwards saw what they said was the work done by the machine?

A. Yes sir.

Mr. LANGHORNE: Take the witness.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. When did you leave the University of California? Mr. Dasher?

A. Early in the year 1906.

X Q. 2. And when did you go into the employ of Henshaw Bulkley & Co. as a salesman?

A. In 1900 and 1901.

X Q. 3. And you have been there in the capacity of salesman ever since that time?

A. Salesman and engineer, yes sir.

1309 X Q. 4. The land that you saw the excavator working on at Leland—at the proposed town of Leland, near Mayfield,

that was in Santa Clara County? What is the character of that soil?

A. It was a heavy adobe soil.

X Q. 5. It is land that had been cultivated and plowed and planted for a great many years, as far as you know?

A. Well, I was told that some of it had been and that some of it had not been.

X Q. 6. It mostly had the appearance of being cultivated land, did it not?

A. Yes.

X Q. 8. What was the length or the distance that you excavated at the time you were down there in the two half-days?

A. They laid off a section of field for us to work the machine in. It was approximately two miles long, and we ploughed down the two miles and ploughed back.

X Q. 9. How many times did you go up and down?

A. Oh, I should say we went down—well, five times down and five times back, possibly six.

X Q. 10. Now is that just your estimate of it? You have no record of it exactly how many times, but that is what you think it was?

A. That is what I think it was. There was no occasion of course, for my counting the number of times that I went down. A test was made to determine the power capacity of the engine, and we were loading the grader to the utmost capacity in order to put the load on the engine.

X Q. 11. You were trying to sell the engine, were you?

A. Why, we were trying to get our money for the engine from the Leland Improvement Co.

X Q. 12. The Leland Improvement Co. was claiming that the engine was not up to the represented capacity?

A. Was not powerful enough to do the work.

X Q. 13. So this was a sort of dress rehearsal, to make a show for the Leland Improvement Co., of course?

A. Yes sir.

X. Q. 14. How deep were you excavating?

1310 A. At times we put the plow in 10 inches deep.

X Q. 15. What was the average?

A. About 8; 6 to 8; 8.

X Q. 16. What were you excavating for? A road?

A. Well, as I say, we were just excavating to test the machine. This was an open piece of ground.

X Q. 17. This was an open piece of ground and you went there to plough it up?

A. And deliver the material off of the end of the draper, off of the end of the elevator.

X Q. 18. Your idea in order to test the engine was simply to show that the engine was strong enough to pull the machine through the depth that such a machine should go?

A. These people were claiming that the engine was not powerful

enough to pull the grader when it was delivering 1000 yards per 10 hour day.

X Q. 19. And you were trying to show that the engine was strong enough?

A. Yes sir.

X Q. 20. How many hours did you run that excavator?

A. About 4 hours each day. No, I won't say that, either. About 4 hours the first day and about 2 hours the second.

X Q. 21. Now do you know the width that you excavated?

A. The plow was cutting about 12 inches wide. It varied from 11 to 12 inches.

X Q. 22. You did not make any record of the total width that you cut there?

A. No, just measured the furrows as the plow would cut along.

X Q. 23. And your recollection is that you went up and down 5 or 6 different times?

A. Yes sir.

X Q. 24. Now the length, how did you arrive at your length?

A. We took the diameter of the wheel of the engine, the big driving wheels of the engine. We got the circumference of the wheel and counted the number of revolutions that it made per minute. My recollection is that the engine was travelling about 4 miles per hour.

X Q. 25. Did you make a written report as to the amount
1311 that you excavated?

A. No, I did not.

X Q. 26. When was this?

A. It was early last year.

X Q. 27. That is, the early part of 1908 or 1907?

A. I think it was the latter part of 1907; just before the rains in 1907 commenced.

X Q. 28. What was the length of the arm of that excavator that you had down to Leland?

A. That we were operating; that that machine would carry?

X Q. 29. No, I am talking about the one that you had down there.

A. About 22 feet long.

X Q. 30. That is your recollection, is it?

A. Yes sir, we did not have all the elevator on.

X Q. 31. How much of an elevator were you using? What length? What length of elevator were you actually using?

A. As I say, about 22 feet.

X Q. 32. You said, as I understand it, that you did not have to put on——

A. We did not have the whole 30 feet that the machine would carry on.

X Q. 33. What is the longest elevator that you ever sold?

A. We sold one, 30 feet.

X Q. 34. Whom did you sell that to?

A. Well, this one at Leland was sold with a 30 foot elevator, and we sold one across down here in Alameda County, to some town site down there. I have forgotten who they were, that had a 30

foot elevator on. I know that this one had a 30 foot elevator on, because I set it up in the yard and measured it. I have sold two others to a contractor, that had two 30-foot elevators on.

X Q. 35. Did you ever see that operating, at 30 feet?

A. I never saw one of them operating with 30 feet on.

X Q. 36. The prices that you give, are those the only priced excavators you have, or are there different prices? Are there larger ones than those?

A. No, we have smaller ones than those. Those are the largest.

X Q. 37. You say that you sold three of them for canals,
1312 and that you afterwards saw the canals. Now what canals were they?

A. No, you misunderstood me. I said I sold these for canals, but I didn't say I saw those canals.

X Q. 38. You didn't mean that you sold an excavator for a particular canal, and that afterwards you saw that particular canal and was told that the excavator did the work?

A. No.

X Q. 39. So all you know about the excavator doing the work on either of the canals that you say you saw, was what people told you?

A. Yes.

X Q. 40. Now where were those canals, and what was the size of them that you did see?

A. Well, the canal that I saw was approximately 14 or 15 feet across the top, and 10 or 12 feet across the bottom, and it was over my head, because I walked down in the bottom of it.

X Q. 41. What difference do you make between the New Era excavator and the Western Giant? Which will do the most work?

A. Well, I make the same capacity claim for both of them.

X Q. 42. What do you guarantee when you sell those?

A. We are always willing to give a written guarantee for 1000 cubic yards for a 10 hour day.

X Q. 43. And the two of them are the same?

A. Yes sir.

X Q. 44. What accounts for the difference in price?

A. The Western machine on account of its longer elevator has to be constructed considerably heavier.

X Q. 45. What is the longest elevator that you ever sold of the New Era?

A. 22 feet.

X Q. 46. And in order to take a longer elevator you have got to have a heavier machine?

A. Also it must be more strongly constructed; a heavier construction.

X Q. 47. Now when you say that one of your excavators will move 1000 cubic yards in 10 hours, you mean running continuously for 10 hours, they will produce that result?

A. Yes sir.

X Q. 48. Have you got any of these Western Giant excavators with the 30-foot elevator in stock here in San Francisco?

1313 A. No, not at present.

X Q. 49. Do you know where there is one in San Francisco?

A. I don't think there are any in San Francisco.

X Q. 50. When did you last see one with a 30-feet elevator?

A. In 1907. When I set this one up in our yard before we sent it out.

X Q. 51. What became of the one that you sent to Leland?

A. I believe it is still down there. I was told so the other day.

X Q. 52. They never completed that job down there, did they, laying out those streets?

A. I understand not.

X Q. 52. They went bankrupt, didn't they?

Mr. LANGHORNE: We object to that as immaterial.

A. I believe so.

(By Mr. TREADWELL:)

X Q. 54. Don't you remember the name of the party that you sold the 30-foot elevator to for the Alameda town site?

A. No, I can't just recollect what that man's name was. The town site is down here near Newark. I could very quickly find out, though.

X Q. 55. Russell, was the name—Russell City?

A. Yes, Russell City.

X Q. 56. Is Russell City simply on the map or have they really excavated the town there?

A. As to that I could not say. I have been there on the train and I saw some streets.

X Q. 57. Do you say that you have been selling both of these, both the New Era and the Western Giant?

A. Yes sir.

X Q. 58. Is there anyone else in San Francisco who sells them?

A. No sir.

1314 Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. How would this excavator be used in digging a canal say that is to be wider than the length of the excavator or draper? Suppose you needed to dig a 60-foot canal and you had this Great Western excavator with a 30-foot elevator, how would it be used, operated?

A. The elevator could be lengthened and the machine counterbalanced, or you could go over the ground, some of it, twice.

R. D. Q. 2. What do you mean by going over it twice?

A. By cutting the ditch a little wider than is necessary and moving the earth off to one side and then going back into the ditch and filling up the cut that you have made with some dirt from the middle.

R. D. Q. 3. Can that machine be operated to make a wide ditch

by driving up one side and delivering the earth on, say, the right hand side, and then driving down the other side and delivering the soil on the right-hand side?

A. Well, the soil on the right-hand side of that machine turned around.

R. D. Q. 4. Yes.

A. Yes.

R. D. Q. 5. That would build a wide ditch, would it not, and make banks?

A. That would build a wide ditch.

R. D. Q. 6. And with a 30-foot elevator it would build a ditch 60 feet wide?

A Well, approximately 60 feet wide.

Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. You spoke about a counter-balance. Have you ever seen a counter-balance used on one of these excavators?

A. No.

R. X Q. 2. The general idea in building machinery, as you understand it, is to build it so that it will produce the very maximum of results, and the elevator, as you understand it, is built in proportion to the strength of the machine?

1315 A. Well, I don't understand just what you want to get at. The machine of course, is constructed counter-balanced, the weight; take a 30-foot elevator machine, a machine built of such a width that it will counter-balance it with an elevator built 30 feet long.

R. X Q. 3. If you have a shorter elevator you can have a lighter machine?

A. You can operate with a lighter machine.

R. X Q. 4. It is the fact that your smaller machines can be built lighter? The smaller your machine the lighter is your elevator?

A. Yes.

R. X Q. 5. And you have your elevator so that it will do as much work as the machine will reasonably stand?

A. Yes.

R. X Q. 6. Now if you counter-balance that with a further weight and then extend the elevator, that puts of course naturally a greater strain upon that machine, does it not?

A. Yes.

R. X Q. 7. And you have never done that so as to know whether one of these machines constructed in the way you have it, whether it would stand that extra strain or not?

A. No, I have never actually done that.

R. X Q. 8. So that when you say that it has been done, that is just simply your opinion that it could be done?

A. My engineering opinion from my knowledge of machinery. They are certainly built strong enough, massive enough.

R. X Q. 9. That is your idea?

A. I would say that is my opinion.

(At the hour of 11:45 A. M. recess was had until 2 P. M., when proceedings were resumed as follows:)

1316 Testimony of H. H. HENDERSON, recalled for defendant.

By Mr. LANGHORNE:

Q. 1. Mr. Henderson, in your report, Exhibit R, where you state that the excavation of China slough is 8268 yards and you afterwards stated on your examination that that was an error, and that the aggregate amount of yardage was 42,724 cubic yards, I will ask you whether that is in one bank or both banks of the slough?

A. I figured for each bank, that quantity for each bank.

Q. 2. That quantity for each bank should be included?

A. That quantity for each bank should be included, yes.

Q. 3. So those were the total amounts in the China slough in the distance you have given in your report—the total amount would be double 42,724 cubic yards? Is that correct?

A. That is correct.

(By Mr. TREADWELL:)

Q. 4. In other words, then, Mr. Henderson, instead of the yardage in the distance you measured on China slough being 8268 cubic yards it was something in the neighborhood of 85,000 cubic yards?

A. Yes sir, a little over 85000.

Q. 5. In other words, in all probability, looking back at your report and refreshing your memory on the whole matter, the probabilities are that in putting down 8268 cubic yards you simply lost a point, and by that made 82,680 cubic yards? Is not that likely the way the error happened?

A. I don't really know how it happened, but I know there should be about that difference.

Q. 6. At any rate, I am trying to get you to some method of accounting for this large discrepancy.

A. I think the discrepancy was simply in the writing. I don't think there was any error in the calculation.

(By Mr. LANGHORNE:)

Q. 7. Now then, I would like you to state to the court in
1317 what condition you found the two banks that you refer to, on that part of China slough, at the time you made your examination?

A. Well, of course I have testified to that in the examination here, and I think I stated that I found places that the bank had been eroded away, that the way it was done was by the water in 1906, a part of it in 1906 and in 1907. In some instances the dirt was washed into the field. The dirt that was on the right bank was evidently washed into the field, or a good part of it, and it re-entered the canal on the left bank, probably some of it entered the canal. But inasmuch as it was high water, it was in my opinion carried, part of it passed right down the canal, and it did not go into the canal,

and so I didn't make any deduction for that part of it which had been eroded away, as I did not consider that the water in the canal—that is, the water used in irrigation, ever came against the dump.

Q. 8. Well, there was another point. You did not consider that the banks were necessary to carry the water that would be naturally carried in the canal?

A. Not that part of the canal that had been washed away.

Q. 9. Which part of it was it that you found mostly washed away?

A. I have a record of it all the way through, of both banks; a little more, perhaps, on the left bank than on the right.

Q. 10. Proportionately how much would you say was washed away along China slough?

A. Well, I could not give you the exact percentage. I have no record of it.

Q. 11. In a rough way?

A. Oh, I think there must have been 1/10 or 1/12; something like that.

Q. 12. That largely was simply washed out into the field where you could not trace it or measure it?

A. That was my judgment.

Q. 13. How did you get at it? You had to make cross sections of China slough in order to make your calculation. You attempted to build one from the portions of the bank which still remained?

A. Yes, I took portions where the high water had not affected it.

1318 Examination-in-chief of ALBERT B. SOUTHARD. Called for defendant; sworn.

By Mr. LANGHORNE:

Q. 1. Where do you live, Mr. Southard?

A. 277 Edgewood Avenue, San Francisco.

Q. 2. What is your business or profes*d*tion?

A. Civil engineer and contractor.

Q. 3. How long have you been in that business?

A. I have been an engineer practically for 27 years, and a contractor for about 7.

Q. 4. Engaged how long in California in that business?

A. All the time with the exception of 3 years.

Q. 5. Do you have an office in this City?

A. Yes sir. 422 Crocker building.

Q. 6. In the exercise of your profession and business as an engineer and contractor have you ever had anything to do with excavating or moving earthwork in this state?

A. Yes sir.

Q. 7. Have you had anything to do with excavating and moving earthwork in connection with ditches or canals?

A. Yes sir.

Q. 8. Have you ever in connection with that work had occasion to use or observe the use of machinery in the manner of such excavation?

A. Yes sir, on one particular job.

Q. 9. What kind of excavating machinery was that?

A. The New Era grader.

Q. 10. You say you have used machinery on one job? That was a New Era, was it?

A. That was a New Era, yes sir.

Q. 11. What sort of work was that?

A. We were running some lateral ditches, cutting a ditch for levee work and throwing up a levee.

Q. 12. Whereabouts was that work done?

A. That was about 10 miles out of Colusa.

Q. 13. In this state?

A. In this state, yes sir, about 10 miles out of Colusa,
1319 along the Sacramento river.

Q. 14. At what time in the month?

A. June, July and August, 1905.

Q. 15. What was the character of the soil in which the excavator was working?

A. The class of soil which I had there was called a sort of valley loam; it was a mixture of loamy soil, I think, which ploughs up very readily and does not clod.

Q. 16. About how many cubic yards a day did you move with the excavator, of earth?

A. I moved for a month there on an average from 12 to 15 hundred yards a day.

Q. 17. What was the cost per cubic yard of doing that work with the excavator?

A. It ran from 3 to 5 cents. I could not give the exact figures, but it was about that; between 3 and 5 cents.

Q. 18. Do you know the character, the general character of the soil on the west side of the San Joaquin river in the counties of Stanislaus, Merced and Fresno?

A. Some places I have seen it, and I know some of it.

Q. 19. How would you classify that soil?

A. Well, that valley, parts of it, some has sand and some has the valley—what I call the valley loam; that is a mixture of adobe and sand; not adobe enough to stiffen it up, but somewhat similar the same, almost.

Q. 20. Was that character of soil on the west side of the San Joaquin river any more difficult to move than that you excavated in Colusa County?

A. Not in the places where I have seen, no, unless you get into the adobe. There you strike it harder. There is adobe in all parts of the valley, but just small stretches of it.

Q. 21. Do I understand you that adobe can be moved by an excavator?

A. The first ploughing, that is, in the summer time, the first ploughing it will clod and I never was able to handle clods. After the first ploughing the soil then breaks up better, and will carry over the draper very nicely.

1320 Q. 22. So wherever there was adobe in the soil the first ploughing would dispose of that, would it?

A. The first ploughing would dispose of that, but it would have to be handled with a scraper.

Q. 23. After that you could use an excavator on it?

A. You could use the New Era for that.

Q. 24. Now that was the extent of your personal experience with the New Era excavator? Did you ever do any work digging ditches and making embankments with an excavator other than those you have mentioned?

A. In San Diego; I can give a little experience, not personal experience there. That might be hearsay.

Q. 26. Places I mean where you know an excavator has been used.

A. I know it was used there, but I didn't have charge of the work.

Q. 27. What was the character of the work?

A. The character of the work was heavier than in what I call this valley loam. There was some gravel in it, but not very much gravel in it. As I stated a little while ago, if there was any lumps or fine stuff to catch it—the large chunks will not travel over the draper, or in case we got large stones. We were running through the Otay, near San Diego. We had two New Era graders there and they told me——

Q. 28. What were they building or constructing?

A. They were building a ditch for a wooden pipe, a water pipe.

Q. 29. Do you know of any other earth excavation where the excavators were used?

A. Down at Leland I saw them quite a number of times, working at Mountain View. The excavators were working there, and they were grading the streets and digging the ditch, and everything, with the New Era graders there. That was last year.

Q. 30. Did you ever see the excavator called the Great Western in operation?

A. Not in operation. I know the machine but I have never seen it in actual operation.

1321 Q. 31. Have you ever examined the machine?

A. Yes, but I have never seen it in operation.

Mr. TREADWELL: Not the Great Western, the Western Giant.

Mr. LANGHORNE: The Western Giant.

Q. 32. In your opinion is that an effective machine?

A. I have not seen it in operation. I stated that I had simply seen the machine and examined the machine in building. I would not be qualified to state what the machine would be able to do on work from simply looking at it. I would not like to state because it would be nothing but a guess. The other I state that I know what it will do.

Q. 33. When you said that it would move a certain number of yards a day, how many days' work was it worked? How many hours a day, I mean?

A. Ten hours a day was a day's work.

Mr. LANGHORNE: Take the witness.

Cross-examination.

By Mr. TREADWELL:

X Q. 1. Mr. Southard, you have the contract, did you not, for doing the grading at the Catholic School near Mountain View?

A. Yes sir.

X Q. 2. What was the contract price of that work?

A. 20 cents a yard.

X Q. 3. How many people bid on the work to do the excavating for the Catholic school at Mountain View?

A. Eight, I think.

X Q. 4. Can you remember the names of the different contractors that bid on that job?

A. There was O'Day of San Francisco, the O'Day Contracting Co., Quimby & Harrilson, C. A. Warren & Co.—I don't just recollect them now, Mr. Treadwell.

X Q. 5. But practically all of the large excavators around San Francisco bid on that job?

A. Yes sir, quite a number of them.

X Q. 6. What was the magnitude of that job?

A. About 100,000 yards, 110,000 yards, I think it was.

X Q. 7. It was put up for public bidding, was it, for any-
1322 body that wished to bid on the job?

A. It was not advertised. It was just told around amongst the contractors.

Q. Just told around?

A. Just told around.

X Q. 9. That bids were desired on the work?

A. Yes sir.

X Q. 10. And your bid was the lowest bid, was it?

A. Yes.

X Q. 11. At 20 cents a cubic yard?

A. At 20 cents a cubic yard. Well, let me correct myself, if you will. The bid was not by the yard. It was lumped, but that was what it amounted to per yard. It was a lump sum that we bid on it.

X Q. 12. Now where is that located?

A. It is about 3 miles west of Mountain View, just about.

X Q. 13. In the vicinity of the new railroad that goes through there?

A. The new railroad that goes from Capistrano to Mayfield goes right along in front of it.

X Q. 14. The land surrounding that is in orchards, is it not?

A. Yes sir.

X Q. 15. The same character of land, is it, that is excavated?

A. Some of it, yes.

X Q. 16. And what has that particular land been used for, if you know, prior to the building of the college?

A. About four acres or five acres of it was in grapes. The balance of it was in grain.

X Q. 17. It had all been planted either to grain or to grapes?

A. Cultivated, yes sir.

X Q. 18. It had been cultivated in some way?

A. Yes sir.

X Q. 19. What was the deepest excavation that you did on that work?

A. 11 feet.

X Q. 20. And that tapered off to nothing?

A. Tapered to nothing.

X Q. 21. It was rolling, hilly ground, was it?

A. Some of it rolling ground. It was on two knolls, just the top of two knolls.

X Q. 22. You simply took off the top of the knolls and brought the earth out so as to make it uniform for the college?

1323 A. A uniform grade, yes sir.

X Q. 23. Now about how wide and how long was the space that the entire excavation covered?

A. 1800 by 600.

X Q. 24. When did you get the contract for that work, Mr. Southard.

A. I think it was a year ago last May or June, something like that.

X Q. 25. That is, it would be about May or June, 1907?

A. 1907, yes sir.

X Q. 26. And when did you start to work?

A. I started in July. I think it was July that I started.

X Q. 27. Now outside of that contract what contract have you had for excavation in the last three years?

A. In large quantity?

X Q. 28. Yes.

A. Nothing in large quantity in the last three years; smaller buildings and things of that kind.

X Q. 29. All small?

A. Yes sir.

X Q. 30. Did you have any building excavations in San Francisco?

A. No, I have had no building excavation in San Francisco.

X Q. 31. Anything that you did have was in small quantity?

A. In small quantity in different parts of the country.

X Q. 32. Now you stated that you did some work near Colusa. Was that on a ranch?

A. Yes sir.

X Q. 33. What place was it on?

A. Why, it was part of the Crocker estate, adjoining the Crocker estate, Colonel Moulton's ranch, about 10 miles out of Colusa.

X Q. 34. And was there any irrigation system there of canals before you went there?

A. Yes sir.

X Q. 35. And you were simply building the lateral ditches to connect with those canals, do I understand?

A. No. They were for drainage purposes.

X Q. 36. Explain what you mean by drainage purposes? What was the object of the ditch?

A. Well, the idea of the levee work which we were going
1324 to use was to protect a particular piece of property, as they had had trouble on the river frequently with regard to the main levee and they could not agree with the people. They had trouble about keeping up the levee, so they decided to run the levee around their own property.

X Q. 37. How far was this from the river?

A. The levee started at the river and went around the property. It was necessary to run drains, and so on, to take the water from low places off and to drain it into the river at different places.

X Q. 38. The land was then subject to overflow, then, from the river?

A. It always has been, yes sir.

X Q. 39. And how big a levee did you throw up there?

A. The levee was—let me see. Oh, it was about 200 feet at the base, where we started, and 20 feet on the top. I think that is the dimensions of it, 20 feet on top and 200 feet at the base where we started. I have forgotten the cross section of that levee. We cleared our space out for 200 feet. That is what it was. We cleared a space for 200 feet; I have forgotten the exact dimensions.

X Q. 40. What do you mean by clearing a space? Of willows?

A. Yes; where we started out of the river, willows and trees.

X Q. 41. You cleared a space 200 feet wide in order to operate?

A. Yes.

X Q. 42. Then you threw earth up and excavated; excavated and threw earth up. What was the base of your levee?

A. Well, I don't like to guess at it, and I don't remember just what the figure was.

X Q. 43. Do you think it was 20 feet on top?

A. Yes sir, about 20 feet on top, where we started from the main river. I didn't stay through the whole work. While I was doing the engineering work for it all, I only finished one part of it and another contractor finished the balance of the work.

X Q. 44. Did you have a contract to do that work?

1325 A. I had a percentage agreement with the Crocker estate people.

X Q. 45. You did not have any contract then, to do it for a certain amount of money?

A. No sir; I had a percentage agreement.

X Q. 46. That is, a percentage on cost?

A. A percentage on cost.

X Q. 47. You didn't finish the contract?

A. I didn't finish the contract.

X Q. 48. And what did you do? Turn it over to somebody else? Or how did you happen to get out of it?

A. They didn't want or would not sign an agreement with me, would not put it in writing. They wanted me to work without having any writing, and I would not do it, and it was turned over to the other foreman to arrange a contract and he agreed with A. E. Buckman.

X Q. 49. To do the entire job?

A. To finish the job, yes sir.

X Q. 50. Do you know what his contract called for?

A. He told me that it called for 9 cents; that he had put it in for 9 cents, and he got 10 per cent.

X Q. 51. When did you go to work on that job?

A. I think it was in the month of June. I know I worked part of June, July and August.

X Q. 52. When did you begin actual excavating?

A. The new part, some time in July.

X Q. 53. And how long did you work yourself?

A. About 3 months.

X Q. 54. And was that when you left it to the other man, to Buckman?

A. Yes sir.

X Q. 55. And how much of the job had you done when you left there?

A. We fixed up a mile of the river levee and had cut the trench for about a mile of the new levee and cut some of the ditches. Then I had run the surveys around the whole line.

X Q. 56. How far from where you cut with the excavator did you deposit the earth?

A. We cut a ditch about 16 feet wide and three feet deep,
1326 running down the center of the levee, and throwed it out, then I threw that dirt back in again.

X Q. 57. Back into where you had taken it out from?

A. Yes.

X Q. 58. What was the object of that?

A. They claimed that the dirt or the water would work along the surface of the ground. If new dirt was laid along the top of the ground, the water would find its way, and by cutting this key—they called it a key—we broke that point so that the water would not find an easy way to get through the bank.

X Q. 59. And how long an elevator did you have on your excavator?

A. Twenty-two feet. I could throw from my plow outside of the draper 22 feet.

X Q. 60. Now, did you have a settlement with the Crocker people when you got through with your work?

A. Yes sir.

X Q. 61. And did you get a percentage on the expense of the work?

A. Yes sir.

X Q. 62. Who measured the work that had been done?

A. Mr. Martin, I think, was their engineer; Mr. Martin of the Crocker estate.

X Q. 63. You think that he did, but you are not sure, whether he measured it or not?

A. Yes sir; I was going to say this, that the amount paid me was not according to the amount of yardage put in the work, because a great part of the work was the cleaning of the old levee for about a mile of the river front, filling up and building up the face of the

old levee and digging out stumps, and things of that kind, which would not show in regard to a yardage proposition. That is what I was going to say.

X Q. 64. That is what I wanted.

A. What I mean was, that it was not based on the yardage of the excavation.

X Q. 65. Your charge and payment was not based on yardage?

A. No sir.

X Q. 66. Now did you measure the excavation that you had done?

A. I did at the time. My field books and notes will show that but I could not tell what it is.

1927 X Q. 67. Well, what occasion did you have for measuring it?

A. For the purpose of knowing what work I was doing.

X Q. 68. To whom did the excavator belong that you had on the job?

A. We had two excavators. They belonged to the Crocker estate.

X Q. 69. Do you know what they cost, Mr. Southard?

A. $1250 I think was the price; either $1200 or $1250.

X Q. 70. And where did you get your horses for the work?

A. We bought them.

X Q. 71. They were your own horses, were they?

A. They were Crocker estate horses. They bought them. They bought them for the job.

X Q. 72. You had nothing to do with getting horses belonging to the Crocker people?

A. They sent a man to buy them and I took charge of them here and took them up there and took them to camp, and everything.

X Q. 73. And the feed for the horses, where was that procured?

A. That was bought in the valley. I bought it wherever I could.

X Q. 74. And the blacksmithing, was any of that done?

A. Yes, we carried our own camp equipment, cook, and blacksmith and everything.

X Q. 75. You carried your own camp equipment?

A. Yes sir.

X Q. 76. What occasion did you have to figure up the cost of that work per yard?

A. Well, I never do any class of work without knowing exactly what it costs me a yard. I suppose that is a part of my inherent training. I am always interested if I see a machine, or anything of that kind working, to see what it is costing the men to handle the work. In this particular case I was interested to know for their benefit, as well as for my own.

X Q. 77. What did you allow for the excavators?

A. In regard to what?

X Q. 78. In fixing the cost of the work?

A. In fixing the cost of the work? Well, I took the cost of

1328 my teams——

X Q. 79. I am asking about the excavator now.

A. $1250.

X Q. 80. Yes.

A. I allowed 10 per cent depreciation on it.

X Q. 81. 10 per cent for how long?

A. 10 per cent on the month. 10 per cent a month on that.

X Q. 82. You had three of them?

A. I had two.

X Q. 83. Did you take 30 per cent?

A. 20 per cent a month on $1250.

X Q. 84. You allowed 10 per cent a month on each excavator?

A. I allowed 10 per cent a month on each excavator, for wear and tear and bolts, and those kind of things, which wear out rapidly on an excavator. It costs quite a little.

X Q. 85. What did you allow for horses?

A. A dollar a day.

X Q. 86. A dollar a day per horse?

A. Yes.

X Q. 87. Did you figure any profit in that, or was that the actual cost?

A. The actual cost.

X Q. 88. Well now have you got the figures on that place, Mr. Southard?

A. No sir, I left them in the Crocker building before the fire. They went through the fire.

X Q. 89. You say it cost from 3 to 5 cents? You can't remember which it was?

A. No, it varied. I did not get it down. I did in places I simply had a memorandum of the work in the way I carried on the job, and it ran from 3 to 5 cents. That is the only way you can estimate it, as based on the number of feet.

X Q. 90. Now how much of the earth that the New Era grader loosens does not carry over the elevator?

A. That depends a good deal on how high you are carrying it up. If you can keep it down enough you can take the most of it over. If you set your plow up high enough—it depends a great deal on the line, the slope of the draper. It depends on the position of the draper. If you get it up too high a great deal of it rolls off. If you can keep it down to a fair height it carries almost all the plow will turn over.

1329 X Q. 91. And that depends also somewhat on the character of the earth, does it not, a great deal?

A. Yes sir.

X Q. 92. In sandy, loose earth you can hardly handle it at all?

A. Sand, I can't handle it.

X Q. 93. You cannot handle sand?

A. No sir.

X Q. 94. And the nearer it approaches the sandy soil the more difficulty you have in handling the earth with the excavator?

A. Yes sir.

X Q. 95. Now, the portion that does remain in the trench, how do you remove that?

A. Well, you simply keep running it over and pounding it down.

That is, the next time the elevator goes over it it will pound it down and make it so that the next time you plow, it will come up with the other and you will pick it up again.

X Q. 96. And is that cheaper than taking that loose part out with the scraper?

A. Yes sir.

X Q. 97. Now this work in San Diego, that was down there near the tide land, was it not?

A. Yes sir; along right around back 20 miles inland, in the Otay; up to the dams up there, that they have. It was at the reservoirs that they were fixing outside of the town of San Diego.

X Q. 98. You had nothing to do with that work as I understand it?

A. No sir. I was building some railroads down there at the time. I bunked with the Spreckles people and I could get access to the cost of what they were doing.

X Q. 99. You recognize the difference, do you, Mr. Southard, between the Western Giant excavator and the New Era excavator?

A. Not as far as the work goes, no sir.

X Q. 100. You have never seen the Western Giant work?

A. No.

X Q. 101. I mean, when you see the machines do you know the difference?

A. In appearance?

X Q. 102. Yes sir.

A. I know they are different in appearance.

X Q. 103. Is there a marked difference in appearance?

1330 A. No, there is no great difference in appearance. I would have to see what the name waw to tell it was the Great Western.

X Q. 104. Is there any difference in the price of them?

A. Well, there is a little difference. I think the Great Western is a little more expensive. It was at that time. I know I looked at both of them.

X Q. 105. It was those new machines that you used on the Crocker place?

A. Yes sir.

X Q. 106. And the excavator that you saw at Leland, was that a new excavator or an old one?

A. I could not *day* that, sir. I saw it simply working a number of times, pulled by a traction engine. I could not say whether it was a new machine or an old one. Yes, I will say that I saw them putting it together.

X Q. 107. It was a new machine, then?

A. It was a new machine.

X Q. 108. Which one was it, did you say? A New Era or a Western Giant?

A. A New Era.

X Q. 109. Are you sure of that?

A. No, I will not say that positively, because I did not go right over to see it. Those machines are not distinct enough so you can

tell from where I was. But I will say it was a New Era machine, that is all.

X Q. 110. Who had the contract to do that work at Leland?

A. I don't know, sir.

X Q. 111. You don't know who was operating it there?

A. I don't know who was operating it.

X Q. 112. Did they let the contract for that work, or advertise it for proposals?

A. Not to my knowledge. I understood, I heard that they were doing the work themselves when I was working at Mountain View I used to go by a good deal. That is the way I happened to see the work.

X Q. 113. Have you bid on any other excavating work in large quantities during the last three years, Mr. Southard?

A. Not excavating alone, no sir.

X Q. 114. Have you bid on any railroad work in California?

A. Yes.

1331 X Q. 115. What railroad work have you bid on?

A. Well, I have done quite a good deal on railroads. I have not bid on any railroads lately at all.

X Q. 116. What railroad work have you done, Mr. Southard?

A. Well, I have done railways of San Diego, and I worked on street railways in San Francisco from the starting of the change of horse cars here, to seven years ago, and that was built, with the exception of the Omnibus Railway and the Union Street line, under my supervision.

X Q. 117. As I understand it, at that time you were in the employ of the company?

A. Yes. I was their engineer at the time.

X Q. 118. You were their engineer?

A. Yes, but the San Diego road was done under contract. That was a different proposition.

X Q. 118. That is, you were acting as contractor?

A. Yes sir, I was the contracting engineer at that time.

X Q. 120. What do you mean by the San Diego road? What railroad is that?

A. That is the Coronado lines and the lines running from different parts at San Diego.

X Q. 121. Electric lines?

A. Electric lines, yes sir.

X Q. 122. What was the amount of your contract per cubic yard on that work on the San Diego railroad?

A. I took it at so much a running foot on ditch work. That was not figured by the yard. It was figured at so much a running foot for ditch-work. That is the way we got that class of work. That is the way we figured on it.

X Q. 123. But however you figured on it, what did it cost?

A. What did it run into per yard?

X Q. 124. Yes.

A. It would run into about 30 cents.

X Q 125. And this railroad in San Francisco, how was that work done? Was it let out by contracts?

A. The company did its own work.

X Q. 126. You stated in regard to this levee at Colusa that
1332 you don't remember now the exact width of it at the bottom.

A. No, I have forgotten the cross section of the levee.

X Q. 127. But it was a very considerable levee?

A. Yes, it held the Sacramento river; that is, one bank of the Sacramento river.

X Q. 128. Well, now your excavator had a capacity of 22 feet from the place where the earth was ploughed?

A. Yes sir.

X Q. 129. And if you did that on the two sides of the levee that would enable you to cover a distance of 44 feet in the extreme?

A. Yes.

X Q. 130. So your levee was not bigger than that, was it?

A. Yes.

X Q. 131. How did you cover the other space?

A. With scrapers. After digging the ditch and starting in the center we worked harrows. We had to run teams on the levee to work the dirt down. They would not stand for the dirt coming in loose. They had to have it tramped down in some way. So I worked harrow teams, scraper teams, working into the center so it was over 50 feet. I know the base was over 50 feet, but I don't know exactly what it was.

X Q. 132. So you say, Mr. Southard, that they would not stand for the earth coming in loose, as it dropped from the excavator? You mean that the people that you were working for would not be satisfied with it in that condition?

A. That they would not be, and I as an engineer, would not consider it good work to put it in that way.

X Q. 133. In other words, it would not be strong enough, dropping that way, to hold the pressure of the water?

A. No sir, it would not. In fact, it did not stand the pressure of the water, even with the teams that we put on it. The water went through it, even as it was.

X Q. 134. What is the difference in that regard between the work done with an excavator and the work done with a scraper as you say? What effect does the scraper work have?

1333 A. Well, it has the advantage of tamping it in by pressure of the horses and the scraper dragging over the dirt, and that causes a settlement before the water has an opportunity to work through. Otherwise, the water takes it out very quickly. But where the scraper goes over it with four horses, dragging the scraper, why that has a tendency to beat the dirt down solid.

X Q. 135. Now do you remember, Mr. Southard, more accurately, how you measured the amount of excavation in that work?

A. Through the amount of ground cut during the day.

X Q. 136. That is, you took cross sections of the excavation after you had made it?

A. We had levels there 50 feet long along the ditch and then

they would go over it after the week's work and see how much material had been taken out during that time. We simply cross sectioned it.

X Q. 137. Now in making your estimate of the expense, did you include anything else than the things that I have mentioned that is, the depreciation of the excavator, the rent of the horses and the labor, the feed, the blacksmithing, the repairing? Was anything else included?

A. The full camp account and everything was charg-able against the amount of material handled, nothing foreign to it.

X Q. 138. That did not include, for instance, the expense of the scraper work that you were doing?

A. Yes sir, everything.

X Q. 139. That included the scraper work also?

A. That included the total expense of the manufacture for the camp. The total expense of the month for the camp went against the amount of material handled.

X Q. 140. Well, what did you allow on scrapers?

A. What did I allow on scrapers? The price of the team, the four horses, the wagon and the scraper itself.

X Q. 141. Where did you get the scraper from?

A. Took it up there.

X Q. 142. What did you allow on that?

A. Two-bits a day.

1334 X Q. 143. You didn't in fact, rent the scrapers? They belonged to the ranch?

A. No, they belonged to the company. They belonged to the ranch. To arrive at the cost I would make the usual allowance as if I was running them.

X Q. 144. Do I understand you then, that the 3 to 5 cents did or did not include the expense of the scraper as well as the excavating?

A. It included the expense of the scraper that helped the excavator; not when we were building with the scrapers alone, but we used a couple of scrapers along with the machine when it was necessary.

Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. Mr. Southard, in regard to this work that you did at the Catholic School, was that done with the excavator?

A. No.

R. D. Q. 2. What was that done with?

A. That was done with a Fresno, a four-horse Fresno.

R. D. Q. 3. Is that more or less expensive work than digging a canal?

A. It took 8 or 10 horses to plough the ground down there at the college, and I ploughed the ground in the canal with two.

R. D. Q. 4. Then it was more expensive, was it?

A. Yes sir, much more expensive.

R. D. Q. 5. Then this bid of yours for this contract price of 20 cents included your profit, did it?

A. Yes, it was supposed to, yes.

R. D. Q. 6. Now this San Diego railroad that you were working on, did you use an excavator there?

A. No sir; that was in the middle of the town, and simply one track, and keeping the cars going on the other.

R. D. Q. 7. And was that more or less expensive, considering the conditions, than digging a canal with the excavator?

A. More expensive, on account of other features. There was no opportunity to work.

1335 R. D. Q. 8. You state that this levee that you built on the Sacramento river with the excavator, that the water got through. Were the waters of the Sacramento river against the bank of that levee?

A. Yes sir.

R. D. Q. 9. State whether or not in your opinion that was greater or less pressure than would be observed by the waters of a canal, say 50 feet wide from bank to bank?

A. Well, the Sacramento at that point is 400 or 500 feet wide, I should say it was without any question.

R. D. Q. 10. Now I ask you whether or not in your opinion as an engineer an effective canal for irrigation purposes could not be constructed on the west side of the San Joaquin river, on the west side of the County, through the Counties of Merced and Stanislaus, 50 feet wide and 7 from the bottom of the cut to the top of the bank, using for the purpose of construction the New Era excavator which was spoken of?

A. If it would be practicable to build it with a New Era grader?

R. D. Q. 12. Yes.

A. Yes sir, I would think so.

R. D. Q. 13. Now then, I will ask you whether or not it would be possible to allow water into the canal gradually, so that the banks would settle properly, so that the water would be held effectively in a canal constructed by the New Era grader?

A. I think it would be covered a great deal better than it could under the conditions we have been talking of in the Sacramento river, rising so high and with such a tremendous force to it, with the loamy soil which would aid very materially in holding it, which would be proven by the first rain that came. In these canals that we built down there, as far as I seen them, I didn't see any reason why the New Era would not build as good a canal as any scraper would build. If I had to build them I would rather build them with the New Era and I could do it for just about half the money.

1336 R. D. Q. Then *Then* your opinion is that an irrigation canal would be built in that section for about half the money that it would take to build it with a scraper?

A. I said that you could, with the proper kind of soil, build a canal for half the money with the New Era as you could with a scraper.

Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. You spoke about the width of the San Joaquin river at that point.

A. Yes sir.

R. X Q. 2. Does that affect the pressure on the bank in any way?

A. No, merely the body of the water. I spoke of the width to represent the body of the water that fills the place up between the two banks during the winter.

R. X Q. 3. Of course, the width of it would have nothing to do with the amount of pressure on the bank?

A. No, it would have nothing to do; simply to show the great body of water that was in there, flowing down between the banks, when the banks should give way.

R X Q. 4. And if you have a canal 100 feet wide and you fill it up, half way up to the top of the bank with water, the pressure on the banks is not any greater than if the canal were 50 feet wide, is it?

A. No, if it has got an opportunity to flow. Those canals, as a usual thing, the water is in the solid part of the ground. The part that has been dug out is usually above the water line; most of it at any rate.

R. X Q. 5. Have you ever done any work in building canals in Fresno County?

A. No sir.

R. X Q. 6. Have you ever built any canals in Merced County?

A. No sir.

R. X Q. 7. Did you ever build any canals in Stanislaus County?

A. No sir.

R. X Q. 8. Do you know the canals known as the canals of the San Joaquin & Kings River Canal & Irrigation Co. in this case?

1337 A. I don't know one from the other, no sir. I was down in through the Merced country down there, and Turlock district, and I went over some of the canals and over some of the work that was being done for some gentleman here in the city, and those are the only ones that I never examined to amount to anything.

R. X Q. 9. Turlock is in Stanislaus County, is it not?

A. I can't say, I am sure. I think it is, though.

R. X Q. 10. What is the character of the earth through that district?

—. There is a good deal of sand in that district.

R. X Q. 11. And that could not be handled by the excavator at all?

A. There are certain parts of it that can be handled by an excavator. Over the work that I visited there was some of it that you could not handle with an excavator. I went there with the idea of making up an estimate for building a canal and doing the work.

R. X Q. 12. You did not do any work there? You didn't get it?

A. No sir.

R. X Q. 13. Were they asking for bids on the work?

A. I was asked to come there as an engineer and see what I would agree to take hold of the property, some 15,000 acres or something like that, and lay out an irrigating system for them. They had one there that they were not satisfied with.

R. X Q. 14. What particular land was that?

A. That Stevinson colony, I believe. Do you know it? I could not tell you exactly where it is.

R. X Q. 15. Then you are acquainted with Mr. Henderson?

A. Simply an introduction yesterday.

R. X Q. 16. And who took you down on the Stevinson property?

A. I was asked to go down by a gentleman who married one of the Stevinson girls.

R. X Q. 17. Hogan?

A. Yes sir, Mr. Hogan, that's the gentleman. He asked me to go down and look at it.

1338 R. X Q. 18. That is a son-in-law, as you understand it, of Colonel Stevinson?

A. That is what I understood.

R. X Q. 19. And when was that?

A. Here a few months ago this last year; something within the last year.

R. X Q. 20. Was it just over the colony that this work was to be let out—what is called Stevinson colony?

A. No, he wanted to make it general. He said his system that he had was extensive, but he wanted to carry it so as to make it over the whole property.

R. X Q. 21. That is, the whole property between the San Joaquin and the Merced rivers?

A. Yes sir.

R. X Q. 22. That did not include taking the water down to the Patterson ranch across the river?

A. That was not included, no sir. That was not spoken of at the time.

R. X Q. 23. He wanted you to lay out new ditches and levees and things of that kind?

A. He said they could not get water to their claims that they were selling, and they wanted somebody to show them how to get it there.

R. X Q. 24. Yes, there was a good deal of land that they had there, that they could not get the water over?

A. That is right.

R. X Q. 25. And that is where they had sold the lots?

A. That is as I understand it.

R. X Q. 26. That is a sandy country, too, is it not?

A. It was that day. I struck it on a sandy day.

R. X Q. 27. It was a good deal the same as the Turlock country?

A. Yes sir.

R. X Q. 28. And you would not care to do much work with the New Era excavator in there, I imagine?

A. No.

R. X Q. 29. That is, not in that portion of the country?

A. Not in that portion. I did not see any chance for it.

R. X Q. 30. Did you make an estimate at that time as to what you would be willing to lay canals out for, in there?

A. I made him a proposition, yes sir. Not an estimate of the yardage, though.

1339 R. X Q. 31. What was the basis of your estimate? I am not getting at the amount, but what did you base it on?

A. The proposition that I made was that I would take charge of the work as an engineer and lay him out a system, build a system, superintend the building of it, for a certain figure.

R. X Q. 32. Were you to do the construction?

A. Yes sir.

R. X Q. 33. And did you tell him what the plans of it were?

A. Only to a certain extent.

R. X Q. 34. So it could not be reduced to anything definite here so that we would know how much you estimated the yardage for the work?

A. No sir; that is, I could not say how many feet. He was not willing to pay for that information. I had paid my own fare down there, and I would not give it to him.

R. X Q. 35. He was not willing to pay you what you wanted for the work?

A. That is it, yes sir.

R. X Q. 36. Did you meet Mr. Peck down there when you went there?

A. That is, the superintendent over the hotel?

R. X Q. 37. No, the lawyer.

A. The superintendent over the hotel, he is the one that seemed to be in a manner superintending everything else.

R. X Q. 38. That is, Mr. McCullough?

A. Yes, I guess that is the man.

R. X Q. 39. Did you ever meet Mr. Peck down in the Crocker building—the attorney?

A. No, I never met him. I had enough with the two I met.

R. X Q. 40. Did they tell you that they were dissatisfied with their present engineer down there, and wanted to get a better one?

A. Why, they said that they could not get any results, that is all.

Mr. LANGHORNE: That is our case in chief.

Mr. TREADWELL: I had expected to call Mr. Fortiere as a witness but he has left California and gone to Washington and will not be back until June, and as I thought it probable that we could close our case without taking his deposition, I asked Mr. Lang-

1340 horne if he would consent to allow me to offer his affidavit which is on file herein, and used on the application for temporary injunction, with the same force and effect as if the witness were here. And as I understand it, Mr. Langhorne is willing that I should use that affidavit with the same effect as if the witness were here, but subject to such objections as he now wishes to urge to it, and with that understanding I offer the affidavit of Samuel Fortiere which is now on file.

Mr. LANGHORNE: Defendant objects to the affidavit and the mat-

ters therein set forth that appear therein after the words "to irrigate more than 100,000 acres" and in the paragraph headed "Total area of land which can be irrigated under the San Joaquin & Kings River Canal & Irrigation Co.'s system' 'o nthe ground that the matters appearing in said affidavit after said words "to irrigate more than 100,000 acres," and each of such matters are and is irrelevant to the issues in this case.

The MASTER: The objection is overruled.

Mr. LANGHORNE: Defendant excepts.

(Further hearing adjourned to Tuesday, March 23, 1909, at 10 A. M.)

1341 TUESDAY, *March* 23, 1909—a. m.

Counsel appearing:

For complainant, E. F. Treadwell, Esq.
For defendants, J. P. Langhorne, Esq.

Examination-in-chief of J. F. CLYNE, Called on behalf of complainant in rebuttal; sworn.

By Mr. TREADWELL:

Q. 1. Where do you reside, Mr. Clyne?

A. Los Banos.

Q. 2. How long have you lived there?

A. Nearly four years.

Q. 3. Are you in the employ of the San Joaquin & Kings River Canal & Irrigation Co., Incorporated?

A. I am.

Q. 4. When did you first enter the employ of that company?

A. In June 27, 1905.

Q. 5. What position in that company do you hold at the present time?

A. Superintendent.

Q. 6. When did you become superintendent?

A. November 1, 1906.

Q. 7. Prior to becoming superintendent what was the nature of your employment?

A. Assistant superintendent.

Q. 8. Since you have been the superintendent of the canal, Mr. Clyne, have you annually made an inventory of the personal property on hand at the end of the fiscal year, that is, November 15, of each year?

A. Yes sir, I have.

Q. 9. I show you a document headed "Inventory of S. J. & K. R. C. & I. Co., Incorporated, November 15, 1907," and marked here as "Complainant's Exhibit No. 17 for Identification." I will ask you if you prepared that inventory?

A. Yes, I prepared the original from which this was copied.

Q. 10. And does that state the personal property which the company had on hand at the date mentioned there?

A. Yes, it does.

Q. 11. Have you had charge of the purchases, of obtain-
1342 ing the materials which are mentioned in that inventory?

A. Yes, most of them.

Q. 12. Are you familiar with the prices at which those materials can be obtained, and at which they were obtained by the company?

A. Yes sir.

Q. 13. Are you familiar with the prices which you have to pay for equipment in connection with the automobiles?

A. I am.

Q. 14. And the automobile you handle yourself, do you, and the repair of it?

A. Yes sir.

Q. 15. Is that true also of the equipment for the telephone?

A. Yes.

Q. 16. And are you also familiar with the prices that you pay for the office furniture, and things of that kind?

A. Yes, I know the cost of that.

Q. 17. And are you familiar with the prices that you have to pay for horse feed?

A. Yes sir.

Q. 18. That is true generally, is it, Mr. Clyne, of all the things set forth?

A. Yes.

Q. 19. You are buying and selling things all the time?

A. Buying nearly all the time, yes.

Q. 20. Now I will ask you if the values which you have put on this personal property were the values at the 15th of November, 1907, of the property mentioned therein?

Mr. LANGHORNE: We object on the ground that it is incompetent, on the ground that it has not been shown that the witness knows the value of any of the articles mentioned in that inventory.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

(By Mr. TREADWELL:)

Q. 21. You may answer the question.

(Question read.)

A. Yes, they are.

Q. 22. Will you state, Mr. Clyne, whether or not any of the country which is covered by the complainant's canals was
1343 overflowed in the year 1906 or 1907, and whether or not any of the banks of the canals were overflowed in those years?

A. Yes. The country within 5 or 6 miles below the headgate of the canal was flooded during the winter of 1906 and 1907.

Q. 23. For what distance?

A. For about 5 or 6 miles below the headgate, along the canal right of way, and also along China slough. That water came overland from the river, and struck the banks from the outside, that is, from the upper side.

Q. 24. That is, you mean that it was overflowed from the head a distance of 5 or 6 miles?

A. Down.

Q. 25. What effect did that have on the banks, Mr. Clyne?

A. Why, it washed them out in many places.

Q. 26. Since you have been in the employ of the complainant has there been any work done in the way of removing the deposit of silt from the canals of the complainant?

A. Yes.

Q. 27. And on what parts of the canals, beginning at the head, has that work been done?

A. The main canal, about 5 or 6 miles below the headgate, was dredged during that time.

Q. 28. You mean, from the head down to 5 or 6 miles?

A. No.

Q. 29. You mean beginning at that point?

A. At that time, during the time I was there the dredging was done within the 5th and 6th mile from the headgate, approximately at that point; and the cleaning of the canal below was done with excavators and scrapers between Camp 13—that would be about the 25th mile—to a point about opposite the town of Newman.

Q. 30. That would be below San Luis Creek?

A. Quite a distance.

Q. 31. And that cleaning that you have referred to was between the head of the canal and the Los Banos creek?

A. No, not all of it. Considerable of it was below the Los Banos creek.

Q. 32. Well now, what part did you do above Los Banos creek?

A. The main canal as distinguished from the parallel, from the Los Banos creek, to the Charleston Dairy.

1344 Q. 33. Where is that located?

A. That is about 3 miles—about the 28th mile of the canal.

Q. 34. Three miles above Los Banos creek?

A. And from the Charleston dairy to Camp 13 we partially cleaned the main canal.

Q. 35. That is one of the parallel canals?

A. Yes, the outer of the two.

Q. 36. Now, what else, going from towards the head?

A. Well, above that point we did only small cleaning, taking out occasional lodgements, and removing tulies.

Q. 37. And then the work that you refer to down to the 5th and 6th mile?

A. That was done by the dredgers.

Q. 38. Was the cleaning you have referred to all in one of the parallel canals, or were they both cleaned?

A. For a short distance above the Los Banos creek there is but one canal and we cleaned that, and above that point we cleaned what is known as the main canal or the outer of the two parallel canals.

Q. 39. In regard to the surface of the ground, Mr. Clyne, above these canals, does the situation of the canal cause any change to be made in the natural surface of the ground?

A. Yes, above the outside bank the silt that will be carried down by the creeks from the foothills would settle outside of the outer

bank and raise what would seem to be the natural level of the ground.

Q. 40. So that a person, after that is ploughed up and sowed, going through, would mistake that for the natural surface of the ground?

Mr. LANGHORNE: We object to that as leading and purely argumentative.

(By Mr. TREADWELL:)

Q. 41. I will withdraw it. At any rate, as I understand your testimony, Mr. Clyne, the surface of the ground on the upper side of the canal bank is raised up above the original natural surface,
1345 by the deposit of this matter which is brought down from the foothills?

A. That is correct.

Q. 42. And if that surface were figured as the natural surface of the ground for determining the amount of excavation below the natural surface of the ground, an erroneous result would be reached?

A. Yes.

Q. 43. What is the purpose, Mr. Clyne, of the surveying and mapping that the canal company does?

A. It is to keep account of the changes in the fields and of the new land that is prepared for irrigation under the canal system.

Q. 44. You keep then, as I understand it, maps which are the result of the surveys, showing the land that is irrigated with water from the canal company?

A. Yes.

Q. 45. While you have been connected with the company what has been the practice, Mr. Clyne, in regard to reporting to the San Francisco office any new work or betterments, done on the canal as distinct from ordinary repairs and maintenance?

A. Separate accounts, betterment accounts for each piece of work are kept in the ledger, and passed on through the ordinary channels of bookkeeping to the City office.

Q. 46. And you keep a set of books, do you, at Los Banos?

A. Yes sir.

Q. 47. And you there have separate accounts for betterments and for maintenance?

A. Yes.

Q. 48. You have that separately?

A. Yes.

Q. 49. And you report to the San Francisco office in connection with that, in accordance with those books?

A. Yes.

Mr. TREADWELL: In connection with the testimony of this witness we offer in evidence the inventory which has already been marked "Exhibit 17 for Identification."

Mr. LANGHORNE: We object to that on the ground that it is incompetent, also on the ground that it cannot be ascertained therefrom whether the inventory as stated on the 1st page $8930.84, or the amount stated on the last page, $1519.60, is correct.

1346 The MASTER: The objection is overruled.
Mr. LANGHORNE: We except.

(The paper is here marked "Complainant's Exhibit No. 17.")

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. In regard to the telephone expense, Mr. Clyne, on the page marked "1" that purports to be a statement, does it not, of the amount of wire, brackets, hose and other things mentioned that were on hand on the date of this inventory?

A. Aside from the quantity contained in the lines.

X Q. 2. Do you mean that these articles mentioned in this inventory were stored and not used in the lines?

A. They were kept on hand to make repairs and extensions.

X Q. 3. That is what this means, then? It does not cover the wires and apparatus and appliances that were in use?

A. Well, it does not cover the wire that was in use nor the poles that were in use, nor the brackets nor the insulators, but it does include the telephones that were in use.

X Q. 4. You have got here 12 standard phones, 8 old phones. Those were phones in use?

A. Some were in use and some were held as extras.

X Q. 5. This inventory is not a complete inventory of the entire telephone line on November 15, 1907?

A. No, it is an account only of such things connected with the telephone line as might vary in quantity.

X Q. 6. Were these telephones, standard phones you have mentioned here, or any of them, purchased by the complainant before you became superintendent or assistant superintendent?

A. I think they were, some of them.

X Q. 7. And you did not purchase them?

A. It is possible that I did not purchase all of them.

X Q. 8. Are you an electrician?

A. Only in an amateur way.

X Q. 9. When a telephone is needed, you purchase it, do
1347 you, for the company?

A. Yes.

X Q. 10. Do you know anything more then, about a telephone, than the price that you have to pay for it?

A. Yes.

X Q. 11. What?

A. I know the parts of which it is made up, the principal parts. I can repair any ordinary defects in it.

X Q. 12. Do you know the battery of the telephone after it has been in use for a year?

A. I know what it costs and can figure the depreciation.

X Q. 13. What is this cost you have given here, of these 12 standard telephones intended to be?

A. The actual cost.

X Q. 14. Without any deduction for depreciation?

Mr. TREADWELL: Do you mean on those?

Mr. LANGHORNE: On those particular phones.

A. Those standard phones?

X Q. 15. Yes.

A. No.

X Q. 16. How long have they been in use?

A. Some of them have been in use a very short time; some not at all. I could not say exactly how long they have been in use. They are comparatively new phones.

X Q. 17. You stated a while ago that some of those telephones might have been owned by the company before you became superintendent?

A. Yes.

X Q. 18. Did you make any deduction for depreciation on that account?

A. Not on any telephone that is not over 4 years old, and had proper usage as those had.

X Q. 19. Then your idea is that a telephone that is 4 years old that has had proper usage has not depreciated?

A. Not materially.

X Q. 20. This auto? "One auto, $600." When was that purchased?

A. Purchased about May, I think, 1907; somewhere about that time.

X Q. 21. What did it cost?

A. I think it cost us $775.

X Q. 22. Does that include the tires, and so on, and other things?

A. No, not the extra tires that are mentioned there.

1348 X Q. 23. Were you ever in the automobile business?

A. No sir.

X Q. 24. Do you know anything about the value of the automobiles outside of the purchase price of them?

A. I don't know the cost of manufacturing them. I know the style, the prices of them, and to a certain extent the discounts allowed.

X Q. 25. And that is all you know, is it not, as to the value?

A. Yes.

X Q. 26. What kind of an automobile was this?

A. It was a Ford.

X Q. 27. Of what year, what vintage?

A. 1907.

X Q. 28. How long had it been in use? You say it was bought in May, 1907?

A. About May.

X Q. 29. And this inventory was made up in November. Had it been used to any extent?

A. Yes, it had been in use a part of that time.

X Q. 30. It had been used every day, had it not?

A. No.

X Q. 31. Nearly every day?

A. Why, at times it would be used every day in the week, and at other times it would not be used for several days. I was the only one who used it.

X Q. 32. And the extra tires, does that represent the purchase price of these tires?

A. If they were new, yes.

X Q. 33. Well, you have put them down here at $45, two extra tires.

A. They were new then. That represents the cost.

X Q. 34. They had not been used; had they?

A. No.

X Q. 35. Now, this office furniture, the safe. Did you buy the safe?

A. No sir.

X Q. 36. Were you ever engaged in selling safes?

A. No.

X Q. 37. Why did you put it at $20?

A. Because I considered that to be the value of it.

X Q. 38. And the transit, did you buy the transit?

A. No.

X Q. 39. How long had it been in use?

A. The company have had it for a long time. It had not been used all the time that they had had it.

X Q. 40. How long had they had it?

A. I could not say when they bought it. They bought it before my time.

1349 X Q. 41. What made you think it was worth $50?

A. Why, judging from the cost of a new transit I think it was worth about that.

X Q. 42. It was an arbitrary figure, was it not, $50, that you put down?

A. No, not entirely.

X Q. 43. What kind of a transit was it Whose make?

A. I cannot say now.

X Q. 44. You can't say how old it was?

A. Only approximately.

X Q. 45. Are you accustomed to use a transit yourself?

A. No.

X Q. 46. Do you know whether it was in good condition at that time?

A. I know that it was being used at about that time.

X Q. 47. Had you ever been engaged in the buying or selling of transits?

A. No.

X Q. 48. As a business?

A. No.

X Q. 49. The same way with regard to levels, had you bought those?

A. No.

X Q. 50. They were there when you went there?

A. I believe they were.

X Q. 51. Do you know what make they were, by whom they were made?

A. No, I can't say now.

X Q. 52. Do you know how long they had been in use?

A. Only judging from their appearance.

X Q. 53. And you put those down at $100 for the two of them?

A. For the two.

X Q. 54. And the rain gauges, rod, current meters, steel tape, stop watch and ammeter, those are surveying instruments, are they not, most of them?

A. Most of them are, yes sir.

X Q. 55. Did you buy any of those yourself?

A. I am not sure that I bought the particular ones mentioned there.

X Q. 56. You found them there when you went there, I suppose?

A. Some of them were there when I went there.

X Q. 57. Were you ever engaged in the business of buying or selling surveyor's instruments or engineer's instruments?

A. No sir.

1350 X Q. 58. You have got down here "Lumber and piles" on page 2, 14,889 feet at $35 a thousand, I suppose you mean $626.12; assorted R. W. Did you buy that lumber?

A. I ordered it.

X Q. 59. From whom?

A. Mostly from the lumber yard.

X Q. 60. Where?

A. At Los Banos and at Dos Palos.

X Q. 61. The lumber yard at Los Banos?

A. The lumber yards at Los Banos and Dos Palos.

X Q. 62. What are the names of the lumber yards?

A. They both belong to Miller & Lux.

X Q. 63. They both belong to Miller & Lux?

A. Yes.

X Q. 64. When did you buy them?

A. At various times.

X Q. 65. Between what dates?

A. I could not say.

X Q. 66. Well, this is made the 15th of November, 1907. How long before that was this lumber bought? Between what times?

A. Why, it probably is not over 2 or 3 years old. It was bought within 2 or 3 years previous to that time.

X Q. 67. Was it on storage by the Canal Company?

A. No, it was lumber that was bought and distributed about the sections to be on hand in case repairs were necessary.

X Q. 68. And it had not been used in a structure, in any structure?

A. Not where it is put down as new lumber.

X Q. 69. I ask you if any of this particular item, any portion of that, had been utilized in any structure on the canal?

A. No, that is new lumber.

X Q. 70. Where was that lumber at the time you made the inventory?

A. At various section houses along the canal.

X Q. 71. Did you buy that all at one time from Miller & Lux?

A. No sir.

X Q. 72. Did you buy it all from Miller & Lux?

A. I would not be sure that we did. It is possible we did not.

X Q. 73. Well, from what other party or concern did you buy, if you did not buy from Miller & Lux?

A. We might have bought direct from lumber firms in San Francisco or at other places, where large quantities of lumber were required.

1351 X Q. 74. I am not asking you what you might have done. I am asking you what you did.

A. I can't identify that particular lot of lumber as having been bought from any particular party.

X Q. 75. But you think that you bought part of it from Miller & Lux?

A. Yes.

X Q. 76. Do you think you bought half of it from Miller & Lux—as much as that?

A. Probably, yes.

X Q. 77. More than half?

A. I cannot say positively.

X Q. 78. Did you keep an account of those purchases, Mr. Clyne,—of that lumber, for instance?

A. No, not of that particular lot of lumber, because it was made up of what was left over from big jobs, and it was small lots of lumber put in at various times to be there in case we should need it.

X Q. 79. Then if you did not keep account of it, how is it that you put it in here at $35 a thousand?

A. Because that was the value at both points of that kind of lumber, at that time.

X Q. 80. That $35 a thousand then, does not represent what it cost, but what you estimated was the value at the time of this inventory? Is that right?

A. Well, it was the value of it at the time the inventory was taken, and about the average cost.

X Q. 81. Now the wood, 32 cords of wood, $3. From whom did you get that?

A. We cut that.

X Q. 82. Oh, you cut it yourselves?

A. Yes.

X Q. 83. From the property, on the property belonging to the Canal Company?

A. Yes.

X Q. 84. These next items, vehicles and harness on page 3. Were not most of these things on hand when you became assistant superintendent of the company?

A. Part of them were.

X Q. 85. Do you know what they cost? What was given for them?

A. Yes. All of them were bought within my time; no, some of them were bought before.

1352 X Q. 86. And these values that you have given here, are they the cost of those articles?

A. The cost less depreciation.

X Q. 87. Your inventory does not show, does not have any separate statement or estimate of depreciation, has it?

A. No.

X Q. 88. And it does not show the original cost, no separate statement of it?

A. No, not in any article in use and appreciated.

X Q. 89. Now then, I understand that in regard *that in regard* to whatever work or materials that went into Betterments or construction, that a separate ledger account was kept by you and sent to the office in San Francisco?

A. Yes.

X Q. 90. For instance, in regard to the dredge, you kept a separate account of that, did you not, as between that class of dredging which was cleaning the canal and that class of dredging which was new construction?

A. No.

X Q. 91. Why didn't you?

A. We kept simply an account of the total cost of the dredging.

X Q. 92. Of the total cost of the dredging?

A. That is, the cost from month to month of doing the dredging.

X Q. 93. And there was no distinction made then, in your accounts, as to whether that dredging was for new construction or whether it was simply cleaning the silt out of the old canal?

A. We reported to the city office the cost of doing the dredging and did not apportion the cost between the old and the new.

X Q. 94. Then you did not keep a separate ledger account of what work went into the new construction?

A. Well, I made that statement having in view new construction, new structures that were put in and new extensions that were being made in the canal, but not with reference to work which was partly new work and partly old.

X Q. 95. Well now, for instance, if you extended a gate so as to make a measuring gate out of it, you make no distinction or did not keep a separate account of that portion which was practically
1353 a new gate, did you?

A. Where we extended an old gate?

X Q. 96. Yes.

A. In that case we kept a measuring box account, an account entitled "Measuring Boxes." And the cost of the extension was put to that account.

X Q. 97. Was put to that account? So there was a separate ledger account kept then, showing the new construction of the measuring boxes?

A. Showing the extensions of the old boxes, the new extensions of the old boxes.

X Q. 98. And was that sent to the San Francisco office?

A. The items which went to make it up; that is, the journal entries and the cash book entries were copies of that, were — to the San Francisco office.

X Q. 99. Now you say that the silt brought down by the creek would deposit earth against the outside bank and raise it so that

in your opinion it would be difficult to determine what was the original bank of the canal at that point? Is that what I understand you?

A. No, that was not the statement.

X Q. 100. What was it?

A. The statement was that the creek and the natural flow of the rainwater, the surface water, would raise the natural surface or the former natural level of the country at the point where it met the outer bank of the canal.

X Q. 101. Are you a surveyor?

A. No sir.

X Q. 102. Did you ever measure the extent to which the land had been raised, as you have stated?

A. Take an actual measurement of it, with an instrument?

X Q. 103. Yes.

A. No sir.

X Q. 104. Did you ever measure it without an instrument?

A. I measured it with the eye, yes.

X Q. 105. How many creeks have you reference to, and what are they?

A. The one that I recall now as having deposited the most earth in that manner, was the Pinoche creek.

X Q. 106. Where is that?

A. The overflow from it touches the canal bank about 6
1354 miles below the headgate.

X Q. 107. When did you first observe it?

A. The overflow or the condition of the land?

X Q. 108. The condition of the land.

A. Why, when I first went to work for the Canal Company, about—something like 3 years and a half ago, I should say.

X Q. 109. And you took a measure with your eye at that time?

A. I noticed the difference of the ground.

X Q. 110. Then there was an overflow after that, was there not?

A. Yes.

X Q. 111. Was not that silt brought down there by that overflow?

A. Yes.

X Q. 112. Now that is about all there is to that, is it not, that the banks were washed out by the overflow?

A. The banks were washed out?

X Q. 113. I mean that the soil was brought in there by the overflow at that particular point?

A. No, that is the natural tendency.

X Q. 114. You have only been there, I believe, about 3 years, is it not, Mr. Clyne?

A. I have been there since the 27th of June, 1905. It is nearly four years.

X Q. 115. And this one place that you have mentioned, you say there was an overflow in 1906 and 1907?

A. That one.

Mr. TREADWELL: What one place?

Mr. LANGHORNE: Pinoche.

A. That particular point I think the silt was brought down in large quantities in 1906 and '7 and deposited against the bank. That was the most noticeable point where the level of the country outside of the outside bank of the canal, had been raised.

X Q. 116. Did it wash away the bank at that point?

A. No.

X Q. 117. Then the banks that were washed away in that freshet that you have spoken of were between that point and the head of the canal?

A. Yes.

X Q. 118. Now what other creek on the canal has deposited silt against the upper bank of the canal?

1355

A. Why, all of the creeks that reach the canal do that at times, and it is not confined to creeks alone. The natural drainage will cause a rise in the ground outside of the outer banks of the canal, and that is particularly so on the outer banks of the main canal, because of the irrigation between there and the outside canal.

X Q. 119. So then, this drainage or washing that you have spoken of, would have a tendency to raise the outer bank of the canal?

A. Not the bank, but the country adjoining the outer bank, outside of the outer bank.

X Q. 120. That is your impression?

A. That is what I have seen.

X Q. 121. Measuring with the eye during the time you have been there?

A. Yes.

X Q. 122. Can you say to what extent any amount of soil has been deposited?

A. No, it varies with the conditions and place.

X Q. 123. And to what extent on each side of the creek has that been true??

A. You mean the distance from the creek?

X Q. 124. Yes.

A. Along the banks of the canal?

X Q. 125. Yes.

A. Why, in the case of the Pinoche Creek there is not any bank at the point where it touches the canal. It just simply spreads over the country.

X Q. 126. There are drainage ditches, are there not, along the upper bank of the canal?

A. Which canal?

X Q. 127. Well, on the main canal at points?

A. Yes.

X Q. 128. Is there not a drainage ditch on the main canal from the place where the outlet canal heads, on down the outlet canal?

A. The outlet canal?

X Q. 129. The outside canal.

A. Why, I can't place it.

X Q. 130. You know what a drainage ditch is, don't you?

A. You mean the ditch that takes the drain water above the canal?

X Q. 131. Yes. Where does that commence?

A. That is not a continuous ditch.

1356 X Q. 132. Well, where does it commence?

A. Oh, it commences at several points; wherever drainage is necessary.

X Q. 133. Well, a great deal of that drainage ditch is along the upper bank of the main canal, is it not?

A. Yes, it is excavated just outside the outer bank of the main canal; the upper bank of the main canal.

X Q. 134. Do you keep that in repair?

A. Yes. Not in thorough repair at all times, but we repair it to some extent.

X Q. 135. It is kept generally in good repair, is it not?

A. No, I can't say that it is.

X Q. 136. Why?

A. Well, I can't say why. It was before my time. Now we are endeavoring to keep it under good repair.

X Q. 137. Since it has been used it has been kept in good repair, has it?

A. No.

X Q. 138. The ditch has been for years more or less out of repair?

A. Yes.

X Q. 139. It has not been filled up, has it?

A. No, there are some places where it has been, but not through its length.

X Q. 140. As a general thing, that depression for this drainage ditch is there, is it not, and has been there since you have been there?

A. Well, at the points where the ditch was put in and intended to be used.

X Q. 141. Now on what points on the main canal is it, if you look at the map Exhibit 2, that there is no drainage ditch? Please look at that map and state, show the points where there is no drainage ditch. First take the main canal.

A. Well, I can't point out every depression here, but where it was intended to have a drainage ditch I can point out. On the parallel canal for a short distance below the Outlet Canal No. 2.

X Q. 142. You say for a short distance. Please state whether it was a mile or half a mile, or more, and about where it com-

1357 mences.

A. It runs for perhaps ¾ of a mile, commencing at Outlet Canal No. 2 as marked on this map. Then below that point there is no regular drainage ditch maintained until we get down to Camp 13. From Camp 13 to Charleston Dairy about one-half the distance has a drainage ditch.

X Q. 143. How far is that? What length?

A. Oh, perhaps from 3 to 3½ miles. Then from the Charleston Dairy to the Los Banos creek there is a drainage ditch, and below that point there is no regular drainage ditch maintained by the company, though for a short distance the water is drained along the outer bank of the main canal.

Mr. TREADWELL: That is all.

Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. Referring to this Exhibit 17, Mr. Clyne, what is the first page of that exhibit? What does that represent?

A. That is a summary or a recapitulation of the pages following.

R. D. Q. 2. Now in regard to the automobile which you got in May, 1907, did you make any improvements on that between that time and November 15, 1907?

A. Yes.

R. D. Q. 3. In regard to the dredge operating, as I understand you, there was some of the time the dredge was increasing the size of China slough, and some of the time it was removing silt? Is that correct?

A. I made no particular observation as to that point, but my belief is that that was the case.

R. D. Q. 4. Those are the two characters of the work, but you did not separate between maintenance and betterments?

A. Yes.

R. D. Q. 5. Now I will ask you if the dredger was doing any work of that nature, that is, any betterment work or widening of China slough, or any other part of the canals between the 1st of July, 1907, and the 30th of June, 1908?

A. No.

1358 *Testimony of W. C. Hammett, Recalled for Plaintiff in Rebuttal.*

By Mr. TREADWELL:

Q. 1. Mr. Hammett, have you heard the testimony of Mr. Henderson and also seen his report, Exhibit R, and the cross sections defendants' Exhibit 29, which has been introduced here?

A. I have.

Q. 2. Have you examined the cauculations contained therein of the excavation of these canals?

A. I have.

Q. 3. Did you hear Mr. Henderson's testimony as to where he used the cut and where he used the banks?

A. Yes.

Q. 4. In determining the amount of the excavation?

A. Yes.

Q. 5. Have you prepared a calculation based upon the cross sections which Mr. Henderson has produced here, which shows the amount of excavation in those canals if you used the cut or depression as shown by those cross sections, and also a calculation showing the amount of excavation if you used the banks as shown by those cross sections, and also showing the amount of excavation if you used the banks in the places that Mr. Henderson stated he used them, and the cuts in the places where he stated he used them?

A. By implication it shows that last, but it does not show it directly. I have that based on the cross sections as shown with the

areas of cross sections as shown on Exhibit 29, but not with the areas—the areas were not separately calculated by me. They were taken from the ones indicated on the cross sections. And it shows only the amount of excavation that there would be, using the cross sections which are given on Exhibit 29-C, using the cuts only, and then using the banks plus 10 per cent only, for the different stretches as shown in the other exhibits.

Q. 6. Then to get this straight. In the first place, you based your calculations entirely upon the area of the cross sections as
1359 indicated by Mr. Henderson on these cross sections without determining whether that area was correctly stated there or not?

A. That is true.

Q. 7. Then you calculated the amount of excavation which will be shown by using the area of those cross sections as given by Mr. Henderson throughout these canals?

A. Yes.

Q. 8. And in the third place, you figured the amount of excavation which would be shown throughout the canal if you used the area of cross sections of the banks as furnished by Mr. Henderson, allowing 10 per cent for shrinkage?

A. Yes.

Q. 9. Then you made a table showing the result of those calculations?

A. I have.

Q. 10. Will you produce it? (The witness produces.) Have you also indicated in your same work the amount of excavation on the same canals as shown by the report of Mr. R. H. Goodwin, Exhibit 1?

A. Yes.

Q. 11. Referring now to the paper you produced, and headed "comparative table of earthwork calculations of the S. J. & K. R. C. & I. Co., Incorporated," I will ask you if this is the calculation that you referred to?

A. It is.

Q. 12. Now in the first column you have "Stations." I will ask you if those are the stations set forth and enumerated in Mr. Henderson's report?

A. They are.

Q. 13. And I will ask you if the next set of figures headed "Cut" is a correct calculation of the yardage between those cross sections in accordance with the cross sections of the depression shown by the report of Mr. Henderson, excepting his calculation of the area of the cross sections, is correct?

A. Yes, they are, and using the cross sections as given on Exhibit 29.

Q. 14. That is, you don't mean that that is the amount of the cut on the ground, but figuring it according to Mr. Henderson's figures?

A. That is it. I also mean that these cross sections were taken at

long intervals and while the cross sections may have been
1360 accurate and correct there may have been intermediate points on the canal or intermediate cross sections which would cause a wide difference in the total yardage between the two sections.

Q. 15. How far apart were some of these cross sections that were given here. Do you remember?

A. I think there were some more than two miles apart.

Q. 16. So that you are simply figuring these in accordance with those cross sections and assuming that they did correctly show the average condition of the cut between the points indicated?

A. Yes.

Q. 17. Now, the next column headed "Banks plus 10 per cent," is that a correct computation of the area of the banks as shown by the areas of the cross sections of the banks in Mr. Henderson's cross sections between the points indicated, allowing 10 per cent for shrinkage?

A. Yes, it is except that in case of dredger banks; I have calculated them without adding the 10 per cent.

Q. 18. The only instance of that is the places where it is marked with a star, and indicated on the column "Banks without 10 per cent"?

A. That is right.

Q. 19. You have done that work separately as to each county, have you, Mr. Hammett?

A. I have.

Q. 20. This document marked "Summary," it being the last page of the paper you hand me, is that a summary of the previous part of the report?

A. It is. It is a statement of the totals as shown on the previous pages, and a grand total thereof.

Q. 21. Have you any way of telling, Mr. Hammett, whether or not the computations placed on this Exhibit 29, as to area of the cross sections of the bank and the area of the cross sections of the cut, whether or not those have been correctly computed?

A. No, they have not. I would like to change my answer on that. I misunderstood the question. I thought it was whether they had been correctly taken. Whether they had been correctly com-
1361 puted. We have the cross sections as shown on Exhibit 29, and if those cross sections are correctly drawn from the survey notes, we can compute the area and see whether it agrees with the area that is marked on there.

Q. 22. Did you test any of those to see whether the area was correctly given or not.

A. I took rough tests in places and found that while they were sometimes inaccurate, that might be due to the drawing and it might be due to incorrect computing. But in many cases they appeared to be inaccurate, but not to a great extent.

Mr. TREADWELL: We offer this in evidence in connection with the testimony of the witness.

Mr. LANGHORNE: We object to it as incompetent; also on the

ground that it is not rebuttal; also on the ground that it is irrelevant.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

(Marked Complainant's Exhibit No. 31.)

(By Mr. TREADWELL:)

Q. 23. Now, Mr. Hammett, if you went down there to reconstruct these canals just exactly as they are shown there on Mr. Henderson's cross sections, in some places you find the banks less than the cut, and sometimes you find the cut less than the banks, do you not?

A. Yes.

Q. 24. And if you went to construct those canals could you reconstruct them with the same amount of excavation as shown in the present banks?

A. Not to carry the same amount of water that they do.

Q. 25. What would be the least amount of excavation that you could do so as to carry the same amount of water, so as to construct those canals, that is as shown there on Mr. Henderson's cross sections?

A. If you take the same location of the canal you would have to do an amount of excavation equal to the greatest amount in either case; that is, if the cut were the greatest, you would have to do excavation equal to that, and if the banks were the greater
1362 you would have to do excavation equal to that, and either haul the excess dirt where the cut was the greater, to make the excessive banks from there on, on what is known as the "Borrow and Waste" system; that is to say, borrow dirt from another excavation to make the excessive banks or waste dirt from the excessive cut over what it took to build the banks.

Q. 26. Now I will ask you in a general way, Mr. Hammett, if you found any errors in the computation of this yardage in Mr. Henderson's report as compared with the yardage in the cross sections which he furnishes here.

A. I did in this way; there are some differences which could not have been the result of errors of computation, because they are so large. There are various small differences which might be due to the difference of method of calculation, or might be due to more cross sections, more intermediate cross sections being used, than are shown on Exhibit 29.

Q. 27. Now, Mr. Hammett, are you familiar with the percentage of shrinkage which will take place in excavated earth? What experience, if any, have you had on that subject?

A. Being in charge of earthwork, principally on railroad work, for about 14 years.

Q. 28. You testified here, if I remember it rightly, to the experience you had had on railroad construction?

A. Yes.

Q. 29. And what amount of shrinkage is allowed in railroad excavation, for shrinkage?

A. In banks constructed with a scraper where the scraper drives over the banks, a 10 per cent shrinkage is deducted from the contractor's estimate when the measurement is made in the bank; and where the bank is constructed by any method where the excavating machinery does not pass over the dirt which is deposited, 15 per cent is deducted.

Q. 30. Now that is for excavation which is not subject to the effects of water at all?

1363 A. Only the action of the elements, the rain and——

Q. 31. Now what is the result where there is water against the bank?

A. That there will be a greater shrinkage than where it is only subject to meteoric water.

Q. 32. While on that subject, Mr. Hammett, I will ask you whether or not it is necessary in these canals, and whether it is the fact that the water in the canal stands against the bank?

A. Yes.

Q. 33. Could you operate the canals at all, say to any considerable extent, if the water did not stand against the bank?

A. No, the water has to be carried in the canal to a higher level than the ground which it has to irrigate.

Q. 34. Now have you done any excavating work during the last couple of years where you used an excavator?

A. Yes.

Q. 35. What kind of an excavator did you use?

A. The New Era excavator.

Q. 36. What is the extreme length of the elevator of the New Era excavator, what they call the Senior excavator, or No. 1; sometimes called the Senior and sometimes called the No. 1, a maximum length of belt from the plough point to the end of the belt?

A. 22 feet.

Q. 37. Have you ever seen an attempt made by artificial contrivance, to extend that elevator?

A. Yes.

Q. 38. How is that done?

A. That was done by putting an extra tension on the belt and counter-weighting the other side of the machine.

Q. 39. What was the result?

A. Continual break-downs.

Q. 40. Do companies that sell these machines guarantee them to do anything of that kind in excess of the 22 feet for which they are built?

A. I have asked the company which sells this excavator in this City and they said that they would not.

Q. 41. In doing this excavating work where did you do it? In what did you do it?

A. What excavating work do you refer to?

1364 Q. 42. Well, you say you did some during the last two years in excavating canals?

A. Yes. There was what is known as Branch 5 of the Colony

canal or Dos Palos canal, belonging to the San Joaquin & Kings River Canal & Irrigation Co., was one of them.

Q. 43. What was the length of that canal?

A. 12,900 feet long.

Q. 44. Did you find that you could complete that canal with the use of an excavator?

A. No.

Q. 46. How did you have to build the canal?

A. I first ran the excavator through, taking out the cut and depositing it on the banks; then afterwards shaping the canal and compacting the banks by means of a four-horse Fresno scraper—by means of 4-horse Fresno scrapers.

Q. 48. Was that necessary in order to get the earth out of the trench and into the bank?

A. Yes.

Q. 49. Did you keep an account of the expense of constructing that canal?

A. Yes.

Q. 50. Have you got it here with you?

A. I have the totals and the deductions in regard to the costs of different items. (Producing.)

Q. 51. This document which you have handed me, headed "Branch No. 5 Colony Canal"—does that correctly state the length and the width of that canal, the depth of it, the average cross sections of the excavation and the total excavation in cubic yards?

A. It does.

Q. 52. And does it also show the expense of labor per cubic yard, and all of the expenses in connection with the building of that canal?

A. It does, the actual expenses.

Q. 53. And the total cost of the excavation, a little over 11 cents per yard?

A. Yes.

Q. 54. That is the correct total cost of that excavation, is it?

A. It is.

Q. 55. Is this an estimate, Mr. Hammett, or is this the
1365 actual expense that you were put to on doing that work?

A. This is the actual expense.

Q. 56. And was this built in January and February of 1908?

A. It was.

Mr. TREADWELL: In connection with the testimony of the witness we offer that document in evidence.

Mr. LANGHORNE: I object to it as incompetent.

The MASTER: The objection is overruled.

Mr LANGHORNE: We take an exception.

(Marked "Complainant's Exhibit No. 32.")

By Mr. TREADWELL:)

Q. 57. Have you constructed in the last two years, Mr. Hammett, any of the structures on this canal which are set forth in the report of Mr. Henderson which is on file here?

A. I have.

Q. 58. Referring to the headgate set forth in Mr. Henderson's report, page 7, at Station 0 plus 30, which he puts a cost on of $810, and a depreciation at 10 per cent, I will ask you when that was constructed?

A. In the latter part of 1907; November, 1907, it was started.

Mr. TREADWELL: Your Honor will remember that this depreciation dates back to June, ,1907, so he depreciates it 10 per cent before it was built.

Q. 59. You constructed that? It was constructed under your direction of superintendence, Mr. Hammett?

A. Yes.

Q. 60. What was the total cost of construction of that headgate?

A. $2,585.29.

Q. 61. Now, referring to the two weirs on page 14 of Mr. Henderson's report, at Station 579 plus 88, which he puts a value on of $601.50 and depreciates 8 per cent, and at Station 579 plus 71 which he puts a cost on of $637.60, and also depreciates 80 per cent, I will ask you when those weirs were built?

A. The one in the main canal was built before I came, and while I know from hearsay, I am unable to give direct evidence
1366 on it.

Q. 62. Do the books show when they were constructed?

A. Yes, they say 1904.

Q. 63. And the other of those, the one in the parallel canal was built when?

A. That was built in February, 1908.

Q. 64. Those two weirs are the weirs at the beginning of the parallel canals, are they?

A. Yes, the double canals.

Q. 65. And the one that you built in 1908, what did that cost you?

A. It cost $870.67 for the superstructure.

Q. 66. How about the sub-structure?

A. The old sub-structure was used in that place, being in good condition, although old.

Q. 67. So you were able to use the entire old sub-structure and simply build the superstructure on that?

A. Yes.

Q. 68. Now what is the condition of the one of those that were built in 1905, the one that was built in 1905?

A. It appeared to be in perfect condition.

Q. 69. Now, referring to the Firebaugh weir set forth on page 11 of Mr. Henderson's report, at Station 334 plus 53, the cost of which he gives as $810.10 and the depreciation on which he figures at 20 per cent, I will ask you when that was built?

A. In October, 1907.

Q. 70. And what did it cost?

A. $2,444.55.

Q. 71. Referring to the Crow Creek weir which is at Station

3570 plus 93, page 235, of Henderson's report, which he gives the cost of as $594.30 and depreciates 20 per cent, I will ask you when that was constructed.

A. In August, 1907.

Q. 72. And what was the cost of it?

A. $1,039.58.

Q. 73. Referring back to that Firebaugh weir at Station 334 plus 53, was there anything peculiar about that construction which cost this high amount of carpenter work, $29.50 a thousand?

A. Yes, the method of construction was used by trenching and bracing the sub-structure below in trenches instead of driving piles, which made it more expensive to put in this sub-structure, especially as the foundation was very wet.

1367

Q. 74. It was in a very wet place, was it?

A. Yes.

Q. 75. Was the kind of structure that you put in a kind of construction that was needed in that place?

A. No, I think driving piles would have been better.

Q. 76. And it might have been done a little cheaper?

A. It might have been done a little cheaper.

Q. 77. Referring to the bridge on page 28 of Mr. Henderson's report, at Station 0 plus 42, the cost of which he gives at $390.50 and which he depreciates 20 per cent, I will ask you when that was constructed?

A. In December, 1907.

Q. 78. Now, referring to the bridge set forth on page 9 of Mr. Henderson's report, at Station 252 plus 73, which he puts a cost on of $452.80 and depreciates 10 per cent, I will ask you when that was constructed?

A. In June, 1908.

Q. 79. Referring, Mr. Hammett, to the paper which you handed me and headed: "Actual Cost of Structures Built from July, 1907, to June, 1908, Labor purchased from April, 1907, to November, 1907," I will ask you if that paper gives in detail the items of the expense of building those various structures which you have last testified to?

A. It does.

Q. 80. And this correctly sets forth the amount paid for lumber, hauling, hardware, nails, carpenter work, piles, excavation, pumping and engineering in connection with those particular works?

A. It does.

Q. 81. That is a correct statement?

A. It is.

Mr. TREADWELL: As illustrating the testimony of this witness we offer that in evidence.

Mr. LANGHORNE: We object to that as incompetent.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

(Marked Complainant's Exhibit No. 33.)

At the hour of 12 m. recess was had until 2 p. m., when proceedings were resumed as follows:

1368 Mr. TREADWELL: We wish to recall Mr. Southard for further cross-examination.

Mr. LANGHORNE: We object to the witness being called for further cross-examination. He was discharged yesterday, examined and cross-examined, and if counsel desires to call him he must call him as his own witness.

The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

Cross-examination of ALBERT B. SOUTHARD, resumed.

By Mr. TREADWELL:

R. X Q. 41. Mr. Southard, I understood you by your testimony to state that in the work you did when you were on the Crocker property, in order to prepare the ground for the excavator, you had to do some work with the scraper at certain places. Is that correct?

A. Yes sir.

R. X Q. 42. And I also understood that in computing the cost per yard of the work of the excavator you counted the cost of that scraper work. Is that correct?

A. That particular work, yes sir.

R. X Q. 43. Now I did not understand you as to whether or not you included in your estimate of the cost of the excavator, the work which the scraper did after the excavator in throwing out and onto the banks the balance of the earth. Did you include that scraper work in your estimate of from three to five cents?

A. No sir, I did not mean to include that. I meant to state it this way, that in throwing the dirt in with the excavator it was necessary to tamp it down, which I did by running a harrow over it, and some places where the excavator would not reach far enough we used one or two scrapers along to pull that in. That work was charged in with the excavator work, and I arrived at
1369 the figure which I gave.

R. X Q. 44. But what part of the scraper work was it that you did outside of that estimate of from three to five cents?

A. The excavator I found not able to handle the dirt more than six feet, about six feet or six feet and a half high: that would be three feet down and three feet and a half up, about a seven foot bank, and above that we had to use scrapers altogether. That scraper work was not charged in against the excavator as that was all done by team work.

R. X Q. 45. And what did you estimate to be the total cost of that embankment, including both the scraper and the excavator work?

A. It ran about 7½ cents.

R. X Q. 46. That was the cost outside of your commission or profit?

A. Yes sir, outside of that.

R. X Q. 47. That would be added on top of it?

A. That would be added on top of it, yes.

R. X Q. 48. What would be the least amount, Mr. Southard, that you would be willing to take a contract for to build a canal on a

large scale, a 40-foot bottom, along the foothills of the San Joaquin valley on the west side of the river through the counties of Fresno, Merced and Stanislaus?

Mr. LANGHORNE: We object to that as not cross-examination.
The MASTER: The objection is overruled.
Mr. LANGHORNE: We take an exception.

A. I figured on some work in that country with several parties and we decided that 9 or 10 cents was about what that class of work was worth.

1370 Redirect examination.

By Mr. LANGHORNE:

R. D. Q. 1. Mr. Southard, where was this work that you figured on, you say for 9 or 10 cents?

A. Near Fresno.

R. D. Q. 2. Did that include your commission or profit?

A. That was to be the contract bid, yes sir. We decided that we would bid that.

R. D. Q. 3. That included the contractor's profit, did it?

A. Yes.

R. D. Q. 4. Now then, the question was asked you about running a canal around the foothills. Do I understand from that that the canal would have a decided grade around the hills, that there would be a decided grade or slope?

A. With a decided cut in some of it. That was the style of canal on which we were figuring, and that it would run partly in the valley land and that it would follow the edge of the hills so that you would get the advantage of the grade.

R. D. Q. 5. If there was no side-hill cutting it would be cheaper, would it not?

A. No, not necessarily. That would depend upon the nature of the soil. The side-hill usually stands better. You can get your bank put in better shape.

R. D. Q. 6. Is it not more economical and cheaper to build a canal on a comparatively level plain than it would be around the contours of hills?

A. In a straight line, yes.

R. D. Q. 7. Yes, it would be cheaper to do it that way, would it not?

A. Yes, it would be cheaper to do it that way if you could find a country that is level enough.

Recross-examination.

By Mr. TREADWELL:

R. X. Q. 1. When you say it is cheaper to build a straight canal through a level country, of course you mean in the aggregate, because there is less yardage?

A. Yes sir; less yardage, less work to it in that way, yes sir.

1371 Examination-in-chief of W. C. HAMMETT, resumed.

By Mr. TREADWELL:

Q. 82. Referring to this exhibit No. 33, Mr. Hammett, to these structures that you have testified to in the column headed "Average", does that express the average cost of lumber per thousand in all this work?

A. You refer to column 6?

Q. 83. The last column.

A. No, the average of that last column, the 9th column, refers to the average only of those two pages.

Q. 84. Per thousand feet?

A. Per thousand feet board measure.

Q. 85. And the hauling is also per thousand feet, is it?

A. The hauling is per thousand feet board measure, as stated at the top of the sheet.

Q. 86. And the 6th column is also headed, "Average." That is the average of those other four jobs that are referred to in the first four columns?

A. Yes.

Q. 88. And that was also per thousand feet?

A. Per thousand feet of board measure of lumber used in the structure.

Q. 88. Now in excavating earth with the excavator or any other method, Mr. Hammett, in throwing it up in the form of a bank, does that bank take a slope or not?

A. Yes, if the earth is not compacted in any way, but is dumped, it will take a certain slope; it will come to rest on a certain slope.

Q. 89. And what slope will that take?

A. It is very uniform for all kinds of dry material. It is generally reckoned in cross-sectioning all kinds of work with the exception of slate or shaling material, which runs in laminated pieces and in very fine sand of the nature of a quicksand—in all other materials it runs to between 1.4 and 1.6 horizontal to 1 vertical and is estimated in all kinds of work as 1.5.

Q. 90. Will it ever take a slope in soils that you have mentioned of 1 to 1?

A. Not when it is dry.

1372 Q. 91. I call your attention to Exhibit 30, headed "Ideal Cross-section of 40 foot Canal, 8 feet deep." Did you prepare that, Mr. Hammett?

A. I did.

Q. 92. And are the computations set forth on that correctly made?

A. They are.

Q. 93. I don't know whether you can answer this, Mr. Hammett, but I will say: "What difference will it make in the amount of excavation which would have to be removed from the upper side of that canal in case instead of making a finished upper bank you desired to make two shells of the upper bank in the same way as you have two shells of the lower bank?

A. Do I understand you to mean and keep the finished dimensions of the bank the same?

Q. 94. Keep the slope the same.

A. Keep the finish the same?

Q. 95. Yes.

A. 4.2 top width and 21.38 feet bottom width?

Q. 96. Could that be done?

A. Could what be done?

Q. 97. Could you make that, keeping those widths and having the two outer shells?

A. Yes. But it would leave an extremely small amount to be filled on the top of the bank.

Q. 98. The amount to be filled in the top would be very small?

A. Yes.

Q. 99. And would not materially change the amount of excavation that you would have to take from the canal with the excavator in order to make those two shells?

A. Not to any great extent.

Q. 100. I would ask you, Mr. Hammett, if it would be possible to determine the amount of silt, if any, which had deposited in these canals, to simply go along the canals and put down in the canal a lath and measure the depth of the water at the various places? Would that show in any way the amount of silt that had been deposited and whether any silt had deposited in the canals?

A. That alone would not.

Q. 101. That measure of the depth of the water at various
1373 places would not give you any material upon which you could determine whether there had been deposited, or if so, how much silt there had been deposited? That is correct, is it?

A. That is correct.

Q. 102. Have you seen the report which Mr. Sloan filed here as to the structures of this canal?

A. Yes, I saw it a month or so ago.

Q. 103. Can you locate any of those structures from that report?

A. No, I could not.

Q. 104. He gives the first thing in his report, a stop-gate 24 by 30. Do you remember whether or not the last stop-gate in the canal answers to that description, at either end of the canal?

A. The notes that we have here are not complete enough in regard to dimensions to say whether that would cover it or not; and besides I don't know whether the dimensions refer to length of floor or width between the abutments. I don't know which they refer. I suppose that the dimensions refer to the length of the floor of the weir and the width between the abutments, but I am unable to tell from that report which belongs to which.

Q. 105. Now, referring to the testimony of Professor Fortier, he states "the Fresno Canal & Irrigation Co. diverts water from the Kings river to supply something like 180,000 acres in the vicinity of Fresno, California. The subsoil of this land was formerly dry and irrigation was a necessity, but during the past 15 years the water table has risen near the surface and in much of the low lying land surface irrigation is no longer needed. This is particularly true of a tract of land comprising some 60,000 acres, located southwest of the city of Fresno, a large part of which is injuriously affected by

both ground water and alkali." I would ask you if there is any substantial part of land under the canal of the complainant which has got into that condition expressed there, where the water
1374 table has risen in such a way that surface irrigation is no longer needed or becomes in any way harmful?

Mr. LANGHORNE: We object to that as not rebuttal. This is their own witness.

The MASTER: The objection is overruled.

Mr. LANGHORNE: We take an exception.

A. There is no tract of land under the San Joaquin canal system of any extent which has ever been irrigated which is not still under irrigation occasionally, perhaps not every year. But it depends a good deal on the length of the rainy season, whether the owners of that land irrigate or not. But there is none on which irrigation has been abandoned on account of having enough water in the soil on account of the soil having been spoiled by too much water.

Cross-examination.

By Mr. LANGHORNE:

X Q. 1. Mr. Hammett, referring to exhibit 32, to the work that you did with the New Era excavator, how many days were you working constructing that canal?

A. 28 days the excavator was used.

X Q. 2. Were there any times that that amount of yardage you have mentioned was excavated, that there was work done there with the excavator that you used?

A. I don't quite understand the question.

X Q. 3. You say that 28 days the excavator was used?

A. Yes.

X Q. 4. How many other days have you figured in there for doing that work besides the 28 days?

A. There were an average of about six scrapers used, and the work extended altogether—the scraping and excavator work extended over perhaps 50 working days.

X Q. 5. How many hours a day?

A. They worked not less than 10 hours a day. They had no regular working hours in the valley; a 10 hour day.

1375 X Q. 6. How many men were employed?

A. There would be 14 men on an average.

X Q. 7. What were those men paid a day?

A. $1.33.

X Q. 8. How many horses were there employed?

A. About an average of 50.

X Q. 9. Whose horses were they?

A. They belonged to Miller & Lux.

X Q. 10. Whose excavator was it?

A. That belonged to Miller & Lux.

X Q. 11. Whose scrapers were used?

A. Miller & Lux's.

X Q. 12. Who furnished the horse feed?

A. Miller & Lux furnished part of it and part was bought directly by the canal company.

X Q. 13. And whose men were employed?

A. They were men paid by the canal company.

X Q. 14. Didn't the men also work for Miller & Lux?

A. They were men who would work for anyone that employs them down there. At this time they were working for the canal company.

X Q. 15. They were usually employed by Miller & Lux, were they not?

A. Not necessarily, no sir.

X Q. 16. Where did they live?

A. They lived in the cook house, in the camp for this construction work.

X Q. 17. Who boarded the men?

A. They were boarded there by the canal company.

X Q. 18. Whose wagon was it that was used?

A. That was Miller & Lux's wagon.

X Q. 19. And didn't you buy the horse feed from Miller & Lux?

A. No, part of the horse feed shown in there is only a part of the whole, and that was bought by the canal company from outside parties. The part they bought from Miller & Lux was not included in there.

X Q. 20. Did you keep an account yourself of the cost of
1376 each one of these items on this exhibit 32?

A. No, that was done by the regular clerical force.

X Q. 21. In the field?

A. The timekeeper took it in the field, yes.

X Q. 22. The timekeeper took it in the field? What was his name?

A. James Vandervere.

X Q. 23. Is he an employé of Miller & Lux?

A. I believe that he is an employé of Miller & Lux.

X Q. 24. Was he not employed by Miller & Lux at that time?

A. I would like to modify that. I am not sure whether Mr. Vandervere took the time on this, or whether it was done directly by the canal company foreman. It is usual on the canal construction work to have the foreman keep the time.

X Q. 25. You did not keep the account of the labor, did you?

A. I did not.

X Q. 26. You did not keep the account of the board, did you?

A. I did not.

X Q. 27. You did not keep the account of the horse hire, did you?

A. No.

X Q. 28. Did you keep the account of any item in this account?

A. I only kept the engineering account, that is, I took the yardage. But the accounts there were taken directly from the books.

X Q. 29. But you did not pay out the money yourself, did you?

A. I did not pay out the money.

X Q. 30. And you made this statement then from accounts kept by other people, did you?

A. I did.

X Q. 31. Now in regard to exhibit 33, will you please look at the item "Excavation for the Main Headgate" and state the amount of cubic yards that was excavated?

A. Do I understand the No. 33 to be the cost of structures?

X Q. 32. Yes sir.

A. In the excavation for the headgate no yardage was taken and no measurement was made.

1377 X Q. 33. How did you come to charge this $590.60 for that?

A. That was the actual labor and other expenses expended for that excavation.

X Q. 34. Did you superintend the work?

A. Yes.

X Q. 35. You know about what the excavation was then, don't you?

A. Yes, it was principally filling behind the bulkheads.

X Q. 36. Did it exceed 330 cubic yards?

A. I should think not, though no measurement was made.

X Q. 37. That would be nearly $1 per yard, would it not?

A. I don't understand. $590.60, if it didn't exceed——

X Q. 38. Did it exceed 230 cubic yards?

A. Well, I don't know about it. It consisted of the various work in regard to putting in and to the head gate, which cannot be reduced to yardage, with the excavation upon the bulkheads and the back filling of those bulkheads.

X Q. 39. Well, you can certainly measure the amount of excavation, can't you?

A. You could of course measure what is done, but since part of this dirt is moved several times in the construction of the headgate, it would not tell anything.

X Q. 40. Well, you didn't measure it as a matter of fact?

A. No, I did not.

X Q. 41. You did not measure the earth that went in behind the wings of the bulkhead?

A. No.

X Q. 42. Now, how many piles did you put in that work?

A. I have not a record here. It was about 60 I should say.

X Q. 43. How large was the cut? That is, what was the width and length of the floor?

A. It was 24 feet long, if I remember rightly; 24 or 26; and the width between the bulkheads was 50 feet.

X Q. 44. Now, you think that 60 piles were about right for that?

A. About that, including the piles that were put in the bulkhead. There were four piles put beneath each bent and there were 11 bents. That would make 44.

1378 X Q. 45. How long were the piles?

A. The average about 24 feet, I think. Those driven near the center of the water were in softer ground than those driven near the edge.

X Q. 46. Do you know — many piles were put in?

A. I don't know. I have the actual footage of the piles that were put in, but I have not got it here.

X Q. 47. Now that head-gate was put in where it was wet, was it not?

A. Yes.

X Q. 48. Would it cost as much if it were put in where it was dry?

A. Put in where it was dry?

X Q. 49. Yes.

A. No, it would not.

X Q. 50. How much less would it cost?

A. You can strike a fair sample of that in the difference between column 1 and column 4, the Crow Creek weir, it was put in dry, and you will note that the carpenter labor on the main headgate came to $25 a thousand and on the Crow Creek weir it came to $22.75 a thousand. The difference between those two would about represent the difference between wet and dry work.

X Q. 51. And is that the only difference between the wet and dry work in the carpenter work?

A. Of course it is the difference in the—that is the only difference between doing it in a wet and a dry canal, yes.

X Q. 52. Now would it make any difference in the cost of excavation if you were working in wet ground, under water?

A. Oh, yes, it would, provided that excavation represented the actual excavation for the putting of the foot wall.

X Q. 53. Well, what difference would that make?

A. Because the excavation for the bulkheads and for filling behind the bulkheads is done in dry dirt in any case.

X Q. 54. Then at least half of your figures for excavation are due to actual digging, are they not?

A. I don't understand your question.

X Q. 55. I mean digging a trench or for a foundation.

A. No, in case of the headgate it was not.

1379 X Q. 56. Well, now what proportion would you estimate as a matter of excavation? How much cheaper would it be to construct, to do the excavation and filling in dry soil and material than in wet?

A. You can't make any estimate without a specific example.

X Q. 57. Now then these gates and weirs that you have mentioned here in exhibit 33, were they not built—or rather, a rebuilding of old structures?

A. One only. The parallel canal headgate was the only one.

X Q. 59. Was there not an old structure at the Firebaugh weir, an old weir there?

A. Not in the same place.

X Q. 59. And at the Crow Creek weir?

A. No, there was none there at all.

X Q. 60. How many feet apart were they?

A. What ones?

X Q. 61. The Firebaugh weir.

A. The Firebaugh weir, they were about 300 feet apart.

X Q. 62. And the outside canal bridge?

A. There had been a bridge there before, had there not? A. No.

X Q. 63. And this Helm Camp bridge?

—. There had been a bridge there before but not in the same place. It had not been in the same place. It was removed at the time the dredger went there.

X Q. 64. Who furnished the lumber for these headgates, and so on?

A. The canal company bought it.

X Q. 65. Did Miller & Lux do any of that work?

A. No.

X Q. 66. Were any of their men employed on that work?

A. I believe not.

X Q. 67. Did you buy any supplies from Miller & Lux?

A. Not to any great extent. Of course if they needed a keg of nails, if they ran a keg of nails or so short at any time, Miller & Lux's stores being the nearest ones would be the ones where the short supplies were bought. But the full bill of material for
1380 these structures was made out before commencing the work and the material was obtained from wholesalers.

X Q. 68. Did Miller & Lux buy them for the canal company?

A. I believe not.

X Q. 69. Do you know?

A. I know they were bought by the canal company. Whether or not Miller & Lux acted as their agent or not, I don't know.

X Q. 70. Did you buy them yourself?

A. I did not. I merely put in the bill of the material to the canal superintendent.

X Q. 71. Did you keep the accounts in regard to the building of these structures yourself?

A. I did not.

X Q. 72. Did you keep the time of the men yourself?

A. I did not.

X Q. 73. Did you pay the carpenters or the other men yourself?

A. I did not.

X Q. 74. Then you made up this account from accounts kept by other parties?

A. I made the account from regular books which were kept by employés employed for that purpose.

X Q. 75. How did you know they were record books?

A. Because they were books of the canal company that I have access to in my official capacity.

X Q. 76. Did you keep the books?

A. I did not.

X Q. 77. Do you know that they are correctly kept?

A. No, I do not.

X Q. 78. Then all you know, Mr. Hammett, about these matters on this exhibit is that you have made up here an estimate from data furnished you by other parties? Is that so?

A. Data which I have taken from the books, yes sir.

1381 Redirect examination.

By Mr. TREADWELL:

R. D. Q. 1. In figuring the cost of these structures, there is no profit figured in there at all, is there, to the contractor or anything of that kind, is there?

A. There is not.

R. D. Q. 2. And is there anything charged to general superintendence against that as the cost of those structures?

A. No.

R. D. Q. 3. You include the actual engineering on the work?

A. The actual engineering.

R. D. Q. 4. And so far as any proportion of the general president's salary and the salary of the different officers figures in the expense, that is not estimated at all?

A. There is no office expense figured whatever. The engineering on here is the cost of drafting, blue printing, making out bills of materials and the surveying work necessary to build the structure.

R. D. Q. 5. Now you say that you don't know as to whether these books were correctly kept? They are the books used in the regular business of the canal company, are they?

A. They are.

R. D. Q. 6. Right along?

A. Yes.

R. D. Q. 7. And they are made up in the regular course of business by bookkeepers who are employed for that purpose, are they?

A. They are.

R. D. Q. 8. In regard to the use of an excavator, Mr. Hammett, is it possible in your experience to keep an excavator working right up to the maximum capacity of a 10-hour day, during the whole of a 10-hour day?

A. It might be possible for a single 10-hour day, but I never knew a case where an excavator over any considerable length of time worked its full time.

R. D. Q. 9. To its maximum capacity?

A. To its maximum capacity.

1382 Recross-examination.

By Mr. TREADWELL:

R. X Q. 1. I will ask you, Mr. Hammett, if you were building a large work such as these canals you would have quite a number of excavators, would you not?

A. Yes.

R. X Q. 2. You would have to have excavators, would you not, to take the place of those that were broken down from time to time?

A. Yes sir.

R. X Q. 3. And you would have to have extra traction engines, would you not?

A. Yes.

R. X Q. 4. And you would have to have excavators of different capacities, would you not?

A. Yes.

Mr. LANGHORNE: If your honor please, we move to strike out Exhibits 32 and 33 on the ground that they are incompetent, as appears from the cross-examination of this witness.

The MASTER: I overrule the objection.

Mr. LANGHORNE: We take an exception.

Mr. TREADWELL: We close our case.

Case submitted. Complainant will serve defendant- with opening statement on April 26. Defendant- will reply on May 5, and the Master will hear the matter on May 10.

1383 STATE AND NORTHERN DISTRICT OF CALIFORNIA.
City and County of San Francisco, ss:

I hereby certify that the foregoing 973 pages, bound in three volumes, together with the accompanying exhibits introduced in connection with the testimony, comprise a full, true and correct record of the testimony given and the proceedings had before me upon the hearing of the matter stated in the caption hereof.

Dated this 31st day of March, 1909.

E. H. HEACOCK,
Master in Chancery, etc.

(Endorsed:) Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1384 COMPLAINANT'S EXHIBIT No. 1.

Estimated Cost of the Headworks and Sundry Items of the San Joaquin and King River Canal and Irrigation Company in Fresno County.

San Joaquin River Weir	Page 1	$54,046.50
Controlling Weir at Headgate	" 2	7,785.05
Head Gate Main Canal	" 3	4,853.86
" " China Slough	" 3	3,814.82
Canal Station at Head Gates	" 3	1,455.00
Machinery and Tools	" 4	12,120.00
Surveying and Telephoning Instruments	" 4	607.00
Office Furniture	" 4	50.00
Total		$84,732.23

San Francisco, Cal., December 24th, 1906.

R. H. GOODWIN,
Consulting Engineer.

1385 Headworks, San Juan River Weir.

380 x 34 x 16.

Lumber R W	at $27 M ft.		$228.00	$6,156.00
" O P	" 27 " "		15.00	405.00
" Weirboards	" 50 " "		21.66	1,083.00
" Battens	" 30 " "		9.00	270.00
" Sheet Piles O P	" 27 " "		288.70	7,794 90
" Square " O P	" 27 " "		16.32	440.64
" Boom " O P	400 ft. at 25¢		3.32	83.00
Carpenter Work	at $10		582.00	5,820.00
Freight & Haul.	" 10		do.	5,820.00
Pile driving made 864	" 2.50			2,160.00
" " sheet 2,568	" 1.00			2,568 00
" " square 64	" 1.50			96.00
" " do. Boom 80	" 2.50			200 00
Iron in Draw Special				3,620 00
False Work				150.00
Earthwork, Excavation & Back Fill				3,000.00
Fish Ladder Estimated				200.00
Blacksmith & Helper 4 mos. at	$200			800 00
Pumping 4 mos. "	$1,000			4,000.00
Incidental Expenses, Bolts, etc., 10%				4,466.65
Engineering, General Superintendence, etc., 10%				4,913.31
Total Estimated Cost				$54,046.50

1386 Headworks Controlling Weir at Head Gate, Main Canal.

48 x 30 x 12.

Lumber R W	at $27 M ft.		20.40	$550.00
" O P	" 27 " "		3.07	82.89
" Weirboards	" 50 " "		1.25	62 50
" Battens	" 30 " "		1.00	30.00
" Piles Sheet	" 27 " "		36.12	975.24
" " Round 5,290 ft.	" 25¢		42.00	1,322.50
Carpenter Work	" $10 " "		103.84	1,038.40
Freight & Haul.	" 10 " "		do.	1,038.40
Pile Driv. Round 140 ft.	" 2			280.00
" " Sheet 554 "	" 1			554.00
Earthwork, Excavation & Back Fill				500.00
Incidental Expenses, Bolts, Tie-rods, etc., 10%				643 39
Engineering, General Superintendence, etc., etc. 10%				707.73
Total				7,785.05

Head Gate, Main Canal.

48 x 20 x 12.

Lumber R W	at $27 M ft.....	$9.54		257.58
" O P	" 27 " "	8.44		227.88
" Weirboards	" 50 " "	1.72		86.00
" Battens	" 30 " "	0.50		15.00
" Piles O P	" 27 " "	19.00		513.00
" " Round 2,760 ft.	" 25¢	21.00		890 00
Carpenter Work	" 10 " "	61.20		612 00
Freight & Haul.	" 10 " "	do.		612.00
Pile Driv. Round 92 ft.	" 2			184.00
" " Sheet 414 "	" 1			414.00
Total forward				$3,811.46

1387 Head Works.

Brought Forward	$3,811.46
Earthwor-, Excavation & back fill.....	200.00
Incidental Expenses, Tie-rods, Bolts, etc., 10%.....	401.14
Engineering, General Superintendence, etc., 10%.....	441.26
Total	$4,853.86

Head Gate, China Slough.

80 x 22 x 12.

Lumber R W	at $27 M ft.....	25.65		$692.55
" O P	" 27 " "	1.20		32.40
" Weirboards	" 50 " "	2.35		117.50
" Battens	" 30 " "	1.20		36.00
" Piles O P	" 27 " "	22.90		618.30
Carpenter Work	" 10 " "	53.30		533.00
Freight & Haul.	" 10 " "	do.		533.00
Pile Driv. Sheet 390 ft.	" 1			390 00
Earthwork, Excavation & Back Fill				200.00
Incidental Expenses, etc., 10%.....				315.27
Engineering, General Superintendence, etc. 10%.....				346.80
Total				$3,814.82

Station at Headgates.

House, Barn, Tool House, Fencing, etc.....	$750.00
Horses	220 00
Cart, Wagons & Harnesses	485.00
Total	$1,455.00

1388 *Sundry Items.*

Machinery and Tools.

1 Dredger		10,500.00
1 Pile Driver 32 ft.	$130.00	
Hammer, 2,000 lbs. at 10¢	200.00	
		330.00
1 Pile Driver 32 ft	120.00	
Hammer, 1,250 lbs. " 10¢	125.00	
		245.00
1 Pile Driver 26 ft.	100.00	
Hammer, 800 lbs. " 10¢	80.00	
		180.00
1 Drag Chain		75.00
8 Scrapers at $5		40.00
2 Wheel " " 40		80.00
3 Plows " 15		45.00
Stretchers, Chains, etc.		25.00
Scow and Skiff		100.00
Blacksmith and Carpenter Tools, Picks and Miscellaneous Tools		500.00
		$12,120.00

Surveying and Telephone Instruments.

1 Transit	$100.00	
2 Levels at $80	160.00	
1 Rod	12.00	
		$272.00
10 Telephone Instruments	135.00	
10 Transmitters, Receivers, etc.	200.00	
		335.00
Total		$607.00

Office Furniture.

Los Banos Office—Safe and Chair	$50.00

1389 *Estimated Cost of the Works of the San Joaquin and Kings River Canal and Irrigation Company in Fresno County, Cal.*

Main Canal	Page 1	$106,215.48
Parallel Canal	" 11	50,200.16
Des Palos Main Canal	" 18	42,558.68
" " Branch Canal No. 1	" 31	11,490.00
" " " " " 2	" 38	4,726.65
Outside Canal	" 43	82,134.10
Outlet Canal No. 1	" 51	5,270.73
" " " 2	" 53	4,299.43
" " " 3	" 55	6,052.15
Total		$312,947.38

San Francisco, Cal., December 24th, 1906.

R. H. GOODWIN,
Consulting Engineer.

1390 Fresno County.

Estimated Cost of Main Canal.

Stop and Outlet Gates, Bridges, etc.	$20,945.33
Earth Excavation, China Slough, 17,000 Cubic yards @ 5¢	850.00
" " Main Canal 732,900 " " @ 10¢	73,290.00
Telephone Line 21.06 Miles @ $70.00	1,474.20
Engineering and General Superintendence, etc., 10%.	9,655.95
Total Estimated Cost	$106,215.48

Right of way 510.5 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1391 Main Canal.

Station 0–00. Head Gate.

Bridge 80 x 14 ft. China Slough.

Lumber R W	at $27	M Ft. . .	1.48	$39.96
" O P	" 27	" " . . .	6.42	173.34
Carpenter Work	" 7	" " . . .	7.90	55.30
Freight & Haul.	" 9	" " . . .	do.	71.10
Earthwork				20.00
Incidental Expenses, etc., 5%				17.98
Estimated Cost				377.68

48–43. Waste Gate. 20 x 24 x 10.

Lumber R W	at $27	M Ft. . .	9.00	243.00
" O P	" 27	" " . . .	1.40	378.00
" Weirboards @	50	" " . . .	.56	28.00
" Battens	at 30	" " . . .	.80	24.00
Carpenter Work	" 10	" " . . .	11.76	117.60
Freight & Haul.	" 10	" " . . .	do.	117.60
Earthwork, Excavation & Back fill				50.00
Incidental Expenses, etc., 10%				95.82
Estimated Cost				1,054.02

59–41. Outlet Gate. 6 x 18 x 5.

Lumber R W	at $27	M Ft...	3.95	106.65
" O P	" 27	" " ...	.40	10.80
" Battens	" 30	" " ...	.15	4.50
Carpenter Work	" 10	" " ...	4.50	45.00
Freight & Haul.	" 10	" " ...	do.	45.00
Earthwork, excavation & Back fill.....				30.00
Incidental Expenses, etc., 10%.....				24.19
Estimated Cost				266.14
Total forward				$1,697.84

Fresno County.

1392 Main Canal.

Brought Forward $1,697.84

74–16. Outlet Gate. 8 x 16 x 5.

Lumber R W	at $27	M ft...	4.08	$110.16
" O P	" 27	" " ...	.48	12.96
" Battens	" 30	" " ...	.22	6.60
Carpenter Work	" 10	" " ...	4.78	47.80
Freight & Haul.	" 10	" " ...	do.	47.80
Earthwork, excavation & back fill				30.00
Incidental Expenses, etc. 10%.....				25.53
Estimated Cost				280.85

75–01. Waste Gate. 20 x 24 x 9.

Same as at Sta. 48–43 ..... 1,054.02

86–00. Outlet Gate. 6 x 18 x 5.

Same as at Sta. 59–41 ..... 266 14

108–98. Outlet Gate. 8 x 18 x 6.

Same as at Sta. 74–16..... 280.85

137–07. Bridge. 116–16.

Lumber R W	at $27	M ft...	3.95	106.65
" O P	" 27	" " ...	14.80	399.60
Carpenter Work	" 5	" " ...	18.75	93.75
Freight & Haul.	" 10	" " ...	do.	187.50
Driv. Piles 32	" 2.00.....			64.00
Earthwork				20.00
Incidental Expenses, etc., 5%.....				43.57
				915.07

137–07. Stop Gate. 80 x 24 x 12.

Lumber R W	at $27	M Ft...	36.46	984.42	
" O P	" 27	" " ...	1.24	33.48	
" Weirboards	" 50	" " ...	2.35	117.50	
Totals Forward			40.05	$1,135.40	$4,494.77

Fresno Co.

1393 Main Canal.

Brought Forward		M Ft....	40.05	$1,135.40	$4,494.77
Lumber Battens	at $30	" "	2.20	66.00	
" Piles	" 27	" "	33.60	907.20	
Carpenter Work	" 10	" "	75.85	758.50	
Freight & Haul.	" 10	" "	do.	758.50	
Pile Driv. Sheet 478 at 1.00.....				478.00	
Earthwork, excavation & back fill.....				300.00	
Incidental Expenses, etc., 10%.....				440.36	
Estimated Cost					4,843.36

259–47. Waste Gate. 14 x 18 x 7.

Lumber R W	at $27	M Ft....	4.80	129.60	
" O P	" 27	" "	.80	21.60	
" Weirboards	at 50	" "	.22	11.00	
" Battens	at 30	" "	.45	13.50	
Carpenter Work	" 10	" "	6.27	62.70	
Freight & Haul.	" 9	" "	do.	56.43	
Earthwork, excavation & Back fill.....				40.00	
Incidental Expenses, etc., 10%.....				33.48	
Estimated Cost					368.31

308–32. Bridge. 54 x 16.

Lumber R W	at $27	M Ft....	1.84	49.68	
" O P	" 27	" "	4.96	133.92	
Carpenter Work	" 5	" "	6.80	34.00	
Freight & Haul.	" 9	" "	do.	61.20	
Earthwork				25.00	
Incidental Expenses, etc., 5%.....				15.19	
Estimated Cost					318.99
Total Forward					$10,026.03

Fresno Co.

1394 Main Canal.

Brought Forward				$10,026.03
332–60. Waste Gate. 49 x 24 x 10.				
Lumber R W	at $27 M Ft....	14.80	$399.60	
" O P	" 27 " "	3.60	97.20	
" Weirboards @ 50	" "	1.40	70.00	
" Battens	" 30 " "	1.60	48.00	
Carpenter Work	at 10 " "	21.40	214.00	
Freight & Haul.	" 9 " "		192.60	
Earthwork, excavation & Back fill.....			70.00	
Incidental Expenses, etc., 10%.....			109.14	
				1,200.54
336–25. Outlet Gate. 7 x 20 x 7.				
Same as at Sta. 74–16.....				280.85
336–80. Outlet Gate. 20 x 24 x 10.				
Same as at Sta. 48–43				1,054.02
337–12. Stop Gate. 49 x 18 x 10.				
Lumber R W	at $27 M Ft....	13.30	359.10	
" O P	" 27 " "	3.10	83.70	
" Weirboards @ 50	" "	1.40	70.00	
" Battens	at 30 " "	1.60	48.00	
Carpenter Work	" 10 " "	19.40	194.00	
Freight & Haul.	" 9 " "	do.	174.60	
Earthwork, excavation & back fill.....			60.00	
Incidental Expenses, etc., 10%.....			98.90	
Estimated Cost				1,088.30
363–93. Bridge. 75–16.				
Lumber R W	at $27 M Ft....	2.70	72.90	
" O P	" 27 " "	8.80	237.60	
Carpenter Work	" 5 " "	11.50	57.50	
Totals Forward	" "	11.50	368.00	$13,649.74

Fresno Co.

1395 Main Canal.

Brought Forward	M ft.....	11.50	$368.00	$13,649.74
Freight & Haul, at $9	" "	do.	103.50	
Earthwork			25.00	
Incidental Expenses, etc., 5%.....			24.83	
Estimated Cost				521.33

378–28. Bridge. 62 x 16.

Lumber R W	at $27 M ft.....	2.24	60.48	
" O P	" 27 " "	5.91	159.57	
Carpenter Work	" 5 " "	8.15	40.75	
Freight & Haul.	" 9 " "	do.	75.35	
Earthwork			25.00	
Incidental Expenses, etc., 5%			17.95	
Estimated Cost				377.10

495–82. Bridge. 70 x 12.

Lumber R W	at $27 M ft.....	1.51	40.77	
" O P	" 27 " "	4.76	128.52	
Carpenter Work	" 5 " "	6.27	31.35	
Freight & Haul.	" 9 " "	do.	56.43	
Earthwork			25.00	
Incidental Expenses, etc., 5%			14.10	
Estimated Cost				296.17

502–00. Outlet Gate. 6 x 16 x 5.

Same as at Sta. 59–41				266.14

555–90. Outlet Gate. 10 x 20 x 7.

Lumber R W	at $27 M ft.....	4.50	121.50	
" O P	" 27 " "	.60	16.20	
" Battens	" 30 " "	.40	12.00	
" Weirboards@ 50	" "	.20	10.00	
Total Forward	" "	5.70	$159.70	$15,110.48

Fresno Co.

1396 Main Canal.

Brought Forward	M Ft...	5.70	$159.70	$15,110.48
Carpenter Work	at $10 M ft....	do.	57.00	
Freight & Haul.	" 9 " " ...	do.	51.30	
Earthwork, excavation & Back fill.....			30.00	
Incidental Expenses, etc., 10%			29.80	
Estimated Cost				327.80

578–28. Bridge. 63 x 16.

Lumber R W	at $27 M ft....	2.15	58.05	
" O P	" 27 " " ...	7.35	198.45	
Carpenter Work	" 5 " " ...	9.50	47.50	
Freight & Haul.	" 9 " " ...	do.	85.50	
Earthwork			25.00	
Incidental Expenses, etc., 5%.....			20.72	
Estimated Cost				435.22

585–56. Stop Gate. 38 x 22 x 10.

Lumber R W	at $27 M ft....	13.00	351.00	
" O P	" 27 " " ...	3.20	86.40	
" Weirboards	@ 50 " " ...	1.00	50.00	
" Battens	at 30 " " ...	.80	24.00	
Carpenter Work	" 10 " " ...	18.00	180.00	
Freight & Haul.	" 9 " " ...	do.	162.00	
Earthwork, excavation & Back fill			67.00	
Incidental Expenses, etc., 10%.....			92.04	
Estimated Cost				1,012.44

754–40. Outlet Gate. 5 ft. Opening.

Lumber R W	at $27 M ft....	4.10	110.70	
" O P	" 27 " " ...	.40	10.80	
Carpenter Work	" 10 " " ...	4.50	45.00	
Totals forward	" " ...	4.50	166.50	$16,885.94

Fresno Co.

1397 Main Canal.

Brought Forward	M Ft...	4.50	$166.50	$16,885.94
Freight & Haul. at $9	" " ...	do.	40.50	
Earthwork, excavation & Back fill.....			25.00	
Incidental Expenses, etc., 10%.....			23.20	
Estimated Cost				255.20

761–50. Inlet Box. 6 x 2 x 28.

Lumber R W	at $27 M ft.....	2.50	67.50	
Carpenter Work	" 5 " "	do.	12.50	
Freight & Haul.	" 9 " "	do.	22.50	
Earthwork, excavation & back fill.....			10.00	
Incidental Expenses, etc., 5%.....			5.62	
Estimated Cost				118.12

762–13. Bridge. 62 x 14.

Lumber R W	at $27 M ft.	1.65	44.55
" O P	" 27 " "	5.65	152.55
Carpenter Work	" 5 " "	7.30	36.50
Freight & Haul.	" 9 " "	do.	65.70
Earthwork			25.00
Incidental Expenses, etc., 5%			16.21
Estimated Cost			340.51

767–00. Inlet Gate. 12 ft. Opening. Outlet Canal No. 2.

Lumber R W	at $27 M ft.	5.00	135.00
" O P	" 27 " "	1.00	27.00
Carpenter Work	" 10 " "	6.00	60.00
Freight & Haul	" 9 " "	do.	54.00
Earthwork, excavation & back fill			30.00
Incidental Expenses, etc., 10%			30.60
Estimated Cost			336.60
Total forward			$17,936.37

Fresno Co.

1398 Main Canal.

Brought Forward $17,936.37

810–32. Outlet Gate. 5 ft. Opening.

Same as at Sta. 754–40 ..... 255.20

893–20. Outlet Gate. 5 ft. Opening.

Same as at Sta. 754–40 ..... 255.20

894–24. Bridge. 68 x 16.

Lumber R W	at $27 M ft.	3.00	81.00
" O P	" 27 " "	6.00	162.00
Carpenter Work	" 5 " "	9.00	45.00
Freight & Haul.	" 9 " "	do.	81.00
Earthwork			25.00
Incidental Expenses, etc., 5%			19.70
Estimated Cost			413.70

1001–88. Outlet Gate. 5 ft. Opening.

Same as at Sta. 754.40 ..... 255.20

1013–30. Inlet Gate. 10 ft. Opening.

Lumber R W	at $27 M ft.....	5.00	135.00	
" O P	" 27 " "	.32	8.64	
Carpenter Work	" 10 " "	5.32	53.20	
Freight & Haul.	" 10 " "	do.	53.20	
Earthwork			30.00	
Incidental Expenses, etc., 10%.....			28.00	
Estimated Cost				308.04

1029–40. Bridge. 67 x 14.

Lumber R W	at $27 M ft.....	1.28	34.56	
" O P	" 27 " "	4.32	116.64	
Freight & Haul.	" 10 " "	5.60	56.00	
Carpenter Work	" 5 " "	do.	28.00	
Totals forward	" "	11.20	$235.20	$19,423.71

Fresno Co.

1399 Main Canal.

Brought Forward	M ft.....	11.20	$235.20	$19,423.71
Earthwork, excavation & back fill.....			25.00	
Incidental Expenses, etc., 10%.....			26.02	
Estimated Cost				286.22

1056–67. Outlet Gate. 5 ft. Opening.

Same as at Sta. 754–40..... 255.20

1083–52. Outlet Gate. 5 ft. Opening.

Same as at Sta. 754–40..... 255.20

1112–00. County Line Merced & Fresno.

Measuring Gates on Outlet Gates:

20 ft. Opening	3 at	$117.00	351.00	
14 " "	1 "	68.00	68.00	
10 " "	1 "	57.00	57.00	
8 " "	3 "	50.00	150.00	
5 " "	3 "	33.00	99.00	
Total				725.00
Total Estimated Cost				$20,945.33

Main Canal.

Length of Canal in Fresno County, 111,200 ft.=21.06 miles.
Right of Way 200 feet in width.

Sections of Canal.

37,500 ft. Base 30 ft. inside slopes	3 :1
73,700 " " 30 " " "	2½:1

1400 Fresno County.

Estimated Cost of Parallel Canal.

Stop and Outlet Gates, Bridges, etc.	$10,932.51
Earth Excavation, 347,040 yds. @ 10¢	34,704.00
Engineering and General Superintendence, etc., 10%	4,563.65
Total	$50,200.16

Right of Way.

List of Stop and Outlet Gates, Bridges, etc., on following pages

1401 Parallel Canal.

Station 584–50. Commencement.

584–91. Outlet Gate. 10 x 24 x 6.

Lumber R W	at $27	M ft.	4.40	$118.80
" O P	" 27	" "	1.30	35.10
Carpenter Work	" 10	" "	5.70	57.00
Freight & Haul.	" 10	" "	do.	57.00
Earthwork, excavation & Back fill				30.00
Incidental Expenses, etc., 10%				29.79
Estimated Cost				327.69

585–56. Stop Gate. 49 x 20 x 9.

Lumber R W	at $27	M ft.	13.30	359.10
" O P	" 27	" "	3.50	94.50
" Weirboards	@ 50	" "	1.30	75.00
" Battens	" 30	" "	1.40	42.00
Carpenter Work	" 10	" "	19.50	195.00
Freight & Haul.	" 9	" "	do.	175.50
Earthwork, excavation & back fill				60.00
Incidental Expenses, etc., 10%				100.10
Estimated Cost				1,101.20

599–41. Outlet Gate. 5.5 x 14 x 6.

Lumber R W	at $27	M ft....	4.00	108.00
" O P	" 27	" " ...	.40	10.80
Carpenter Work	" 10	" " ...	4.40	44.00
Freight & Haul.	" 9	" " ...	do.	39.60
Earthwork, excavation & back fill.....				20.00
Incidental Expenses, etc., 10%.....				22.24
Estimated Cost				244.64
Total forward				$1,673.53

Fresno Co.

1402 Parallel Canal.

Brought Forward $1,673.53

621–71. Outlet Gate. 5.5 x 14 x 6.

Same as at Sta. 599–41 ..... 244.64

642–98. Outlet Gate. 5.5 x 14 x 6.

Same as at Sta. 599–41 ..... 244.64

671–91. Outlet Gate. 5.5 x 14 x 6.

Same as at Sta. 599–41..... 244.64

685–47. Bridge. 28 x 14. Head Dos Palos Main.

Lumber R W	at $27	M ft....	2.00	$54.00
" O P	" 27	" " ...	2.75	74.25
" Piles	" 27	" " ...	2.85	76.95
Carpenter Work	" 5	" " ...	7.60	38.00
Freight & Haul.	" 9	" " ...	do.	68.40
Driving Piles	17 @	2.50.....		42.50
Earthwork				30.00
Incidental Expenses, etc., 5%.....				19.20
Estimated Cost				403.30

699–96. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–41..... 244.64

727–58. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–41 ..... 244.64

740–32. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–41					244.64

755–06. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–41					241.64

762–13. Stop Gate. 40 x 24 x 9.

Lumber R W	at $27	M ft....	10.40	280.80	
" O P	" 27	" " ...	4.20	113.40	
Totals forward		" " ...	14.60	394.20	$3,789.31

Fresno Co.

1403 Parallel Canal.

Brought Forward		M ft....	14.60	$394.20	$3,789.31
Lumber Weirboards @	$50	" " ...	1.00	50.00	
" Battens	" 30	" " ...	1.00	30.00	
Carpenter Work	" 10	" " ...	16.60	166.00	
Freight & Haul.	" 9	" " ...	do.	149.40	
Earthwork, excavation & Back fill.....				60.00	
Incidental Expenses, etc., 10%.....				86.96	
Estimated Cost					936.56

769–41. Outlet Gate. 6 x 14 x 6.

Lumber R W	at $27	M ft....	3.00	81.00	
" O P	" 27	" " ...	.40	10.80	
Carpenter Work	" 10	" " ...	3.40	34.00	
Freight & Haul.	" 9	" " ...	do.	30.60	
Earthwork, excavation & back fill.....				25.00	
Incidental Expenses, etc., 10%.....				18.14	
Estimated Cost					199.54

783–25. Outlet Gate. 6 x 14 x 6.

Same as at Sta. 769–41					199.54

797–22. Outlet Gate. 6 x 14 x 6.

Same as at Sta. 769–41					199.54

810–32. Outlet Gate. 6 x 14 x 6.

Same as at Sta. 769–41					199.54

837–16. Outlet Gate. 6 x 14 x 6.

Same as at Sta. 769–41 ..... 199.54

864–65. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–41 ..... 244.64

878–45. Outlet Gate. 5.5 x 14 x 9.

Same as at Sta. 599–41 ..... 244.64

Total Forward $6,212.85

Fresno Co.

1404 Parallel Canal.

Brought Forward $6,212.85

892–72. Outlet Gate. 5.5 x 14 x 7.

Same as at Sta. 599–47 ..... 244.64

894–24. Stop Gate. 40 x 18 x 9.

Lumber R W	at	$27	M ft....	9.00	$243.00
" O P	"	27	" " ...	4.20	113.40
" Weirboards	@	50	" " ...	1.00	50.00
" Battens	"	30	" " ...	1.00	30.00
Carpenter Work	"	10	" " ...	15.20	152.00
Freight & Haul.	"	9	" " ...	do.	136.80
Earthwork, excavation & back fill					60.00
Incidental Expenses, etc., 10%					78.50

Estimated Cost 863.70

920–95. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–47 ..... 244.64

937–70. Outlet Gate. 5.5 x 14 x 4.

Same as at Sta. 599–47 ..... 244.64

947–67. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–47 ..... 244.64

960–94. Outlet Gate. 5.5 x 14 x 5.

Same as at Sta. 599–47 ..... 244.64

973–90. Outlet Gate 5.5 x 14 x 5.

Same as at Sta. 599–47 ..... 244.64

1001–88. Outlet Gate. 5 x 10 x 5.

Lumber R W	at $27 M ft....	4.00	108.00	
" O P	" 27 " " ...	.50	13.50	
Carpenter Work	" 10 " " ...	4.50	45.00	
Totals forward	" " ...	4.50	$166.50	$8,544.39

Fresno Co.

1405 Parallel Canal.

Brought Forward	M ft....	4.50	$166.50	$8,544.39
Freight & Haul. at $10	" "		45.00	
Earthwork, excavation & Back fill			30.00	
Incidental Expenses, etc., 10%			24.15	
Estimated Cost				265.65

1015–55. Outlet Gate. 5 x 18 x 5.

Lumber R W	at $27 M ft....	1.70	45.90
" O P	" 27 " " ...	.30	7.10
Carpenter Work	" 10 " " ...	2.00	20.00
Freight & Haul.	" 10 " " ...	do.	20.00
Earthwork, excavation & back fill.....			20.00
Incidental Expenses, etc., 10%			11.30
Estimated Cost			124.30

1029–40. Bridge. 67 x 14.

Lumber R W	at $27 M ft....	1.28	34.56
" O P	" 27 " " ...	4.32	116.64
Carpenter Work	" 5 " " ...	5.60	28.00
Freight & Haul.	" 10 " " ...	do.	56.00
Earthwork, excavation & Back fill.....			25.00
Incidental Expenses, etc., 10%			26.02
Estimated Cost			286.22

1039–00. Outlet Gate. 5 x 10 x 4.

Same as at Sta. 1001–88 ..... 265.65

1056–07. Outlet Gate. 5 x 10 x 4.

Same as at Sta. 1001–88 ..... 265.65

1083–52. Outlet Gate. 5 x 10 x 4.

Same as at Sta. 1001–88	265.65
Total forward	$10,017.51

Fresno Co.

1406 Parallel Canal.

Brought Forward	$10,017.51

1122–00. County Line, Merced & Fresno.

Measuring Gates on Outlet Gates:

10 ft.	Opening	1	@ $57.00	57.00	
5 "	"	26	" 33.00	858.00	
Total					915.00
Total Estimated Cost					$10,932.51

Parallel Canal.

Length of Canal in Fresno County 53,750 ft. = 10.18 miles.

Sections of Canal.

40,000 ft.	Base	25 ft.	inside slopes	3:1	Average cut	4.70 ft.
13,750 "	"	30 "	" "	3:1	" "	3.60 "

1407 Fresno County.

Estimated Cost of Dos Palos Main Canal.

Stop and Outlet Gates, Bridges, etc.			$27,136.51
Earth Excavation	109,617 yds.	@ 10¢	10,961.70
" " Side Canal	8,450 "	" 7¢	591.50
Engineering and General Superintendence, etc., 10%			3,868.97
Total			$42,558.68

Right of way, 167 acres @ —.

List of Stop and Outlet Gates, Bridges, etc., on following pages.

1408 Dos Palos Main Canal.

Station 1–25. Head Gate. 30 x 20 x 9. Vertical.

Lumber R W	at $27	M ft....	8.78	$237.06	
" Weirboards	@ 50	" " ...	.48	24.00	
" Battens	" 30	" " ...	.55	16.50	
Carpenter Work	at $10	" " ...	9.81	98.10	
Lumber Piles O P	" 27	" " ...	6.27	169.29	
Freight & Haul.	" 9	" " ...	16.08	144.72	
Pile driv. Sheet 112 @ 1.00				112.00	
Earthwork, excavation & Back fill				33.00	
Incilental Expenses, etc., bolgs., 10%				83.46	
Estimated Cost					918.13

2.45. Stop Gate. 30 x 18 x 9 ft.

Lumber R W	at $27	M ft....	10.05	271.35	
" O P	" 27	" " ...	.48	12.96	
" Weirboards	@ 50	" " ...	.66	33.00	
" Battens	" 30	" " ...	.55	16.50	
Carpenter Work	" 10	" " ...	11.74	117.40	
Lumber Piles O P	" 27	" " ...	6.72	181.44	
Freight & Haul.	" 9	" " ...	18.46	166.14	
Piles Driv. Sheet 112 at 1.00				112.00	
Earthwork, excavation & back fill				31.00	
Incidental Expenses, bolts, etc., 10%				94.17	
Estimated Cost					1,035.96

17–29. Stop Gate. 30 x 18 x 8 ft.

Lumber R W	at $27	M ft....	12.18	328.86	
" O P	" 27	" " ...	.48	12.96	
" Weirboards	@ 50	" " ...	.66	33.00	
" Battens	" 30	" " ...	.80	24.00	
Totals forward		" " ...	14.12	$398.82	$1,954.09

Fresno Co.

1409 Dos Palos Main Canal.

Brought Forward		M ft....	14.12	$398.82	$1,954.09
Carpenter Work	at $10	" " ...	do.	141.20	
Freight & Haul.	" 9	" " ...	do.	127.08	
Earthwork, excavation & back fill				61.00	
Incidental Expenses, bolts, etc., etc., 10%				72.81	
Estimated Cost					800.91

46–61. Stop Gate. 30 x 20 x 8 ft. Vertical.

Lumber R W	at $27 M ft....	10.91	294.57	
" Weirboards	@ 50 " " ...	.48	24.00	
" Battens	" 30 " " ...	.80	24.00	
Carpenter Work	" 10 " " ...	12.19	121.90	
Freight & Haul.	" 9 " " ...	do.	109.71	
Earthwork, excavation & back fill.....			63.00	
Incidental Expenses, Bolts, etc., 10%.....			63.71	
Estimated Cost				700.89

Pipe Box. 12 x 4 x 100 ft.

Lumber R W	at $27 M ft....	14.00	378.00	
" Battens	" 30 " " ...	.60	18.00	
Carpenter Work	" 10 " " ...	14.60	146.00	
Freight & Haul.	" 9 " " ...	do.	131.40	
Earthwork, excavation & back fill			50.00	
Incidental Expenses, Bolts, etc., 10%.....			72.34	
Estimated Cost				795.74

74–30. Outlet Box. 4 x 3 x 22 ft. Right.

Lumber R W	at $27 M ft....	1.50	40.50	
Carpenter Work	" 10 " " ...	do.	15.00	
Freight & Haul.	" 9 " " ...	do.	13.50	
Earthwork, excavation & back fill.....			6.00	
Totals forward			$75.00	$4,251.63

Fresno Co.

1410 Dos Palos Main Canal.

Brought Forward			$75.00	$4,251.63
Incidental Expenses, Bolts, etc., 10%.....			7.50	82.50
Estimated Cost				.....

74–75. Outlet Gate. 16 x 16 x 7. Left.

Lumber R W	at $27 M ft....	6.70	180.90	
" O P	" 27 " " ...	1.00	27.00	
" Weirboards	" 50 " " ...	.11	5.50	
" Battens	" 30 " " ...	.50	15.00	
Carpenter Work	" 10 " " ...	8.31	83.10	
Freight & Haul.	" 9 " " ...	do.	74.80	
Earthwork, excavation & back fill.....			37.00	
Incidental Expenses, etc., 10%.....			42.33	
Estimated Cost				465.63

74–87. Stop Gate. 40 x 18 x 8.

Lumber R W	at $27 M ft....	10.26	277.02	
" O P	" 27 " " ...	.34	9.18	
" Weirboards	" 50 " " ...	.80	40.00	
" Battens	" 30 " " ...	.80	24.00	
Carpenter Work	" 10 " " ...	12.20	122.00	
Freight & Haul.	" 9 " " ...	do.	109.80	
Earthwork, excavation & back fill.....			67.00	
Incidental Expenses, Bolts, etc., 10%.....			64.90	
Estimated Cost				713.90

94–73. Outlet Box. 4 x 3 x 16. Left.

Same as at Sta. 74–30..... 82.50

94–88. Bridge. 32 x 16 ft.

Lumber R W	at $27 M ft....	1.38	37.26	
" O P	" 27 " " ...	2.79	75.23	
Carpenter Work	" 5 " " ...	4.17	20.85	
Totals forward	" " ...	4.17	$133.34	$5,596.16

Fresno Co.

1411 Dos Palos Main Canal.

Brought Forward	M ft....	4.17	$133.34	$5,596.16
Freight & Haul.	$9 " " ...	do.	37.53	
Earthwork			13.00	
Incidental Expenses, etc., 5%.....			9.19	
Estimated Cost				193.06

95–10. Outlet Box. 4 x 3 x 16. Right.

Same as at Sta. 74–30..... 82.50

98–25. Pipe Box. 4 x 5 x 160.

Estimated 550.00

116–81. Outlet Box. 4 x 3 x 16. Right.

Same as at Sta. 74–30..... 82.50

132–10. Pipe Box. 6 x 3 x 100.

Estimated 500.00

134–56. Waste Gate. 24 x 20 x 8. Right.

Lumber R W	at $27	M ft....	9.90	167.30
" O P	" 27	" " ...	1.20	32.40
" Weirboards	" 50	" " ...	.40	20.00
" Battens	" 30	" " ...	.60	18.00
Carpenter Work	" 10	" " ...	12.10	121.00
Freight & Haul.	" 9	" " ...	do.	108.90
Earthwork, excavation & back fill.....				60.00
Incidental Expenses, etc., 10%.....				52.76
Estimated Cost				580.36

143–89. Outlet Gate. 6 x 16 x 6. Right.

Lumber R W	at $27	M ft....	3.95	106.65
" O P	" 27	" " ...	.40	10.80
" Battens	" 30	" " ...	.20	6.00
Carpenter Work	" 10	" " ...	4.55	45.50
Totals forward		" " ...	4.55	$168.95	$7,581.58

Fresno Co.

1412 Dos Palos Main Canal.

Brought Forward		M ft....	4.55	$168.95	$7,584.58
Freight & Haul.	at —	" " ...	do.	40.95	
Earthwork, excavation & back fill				25.00	
Incidental Expenses, etc., 10%.....				23.49	
Estimated Cost					258.39

148–30. Outlet Gate. 8 x 16 x 5. Left.

Lumber R W	at $27	M ft....	4.28	115.56
" O P	" 27	" " ...	.50	13.50
" Battens	" 30	" " ...	.22	6.60
Carpenter Work	" 10	" " ...	5.00	50.00
Freight & Haul.	" 9	" " ...	do.	45.00
Earthwork, excavation & back fill.....				28.00
Incidental Expenses, etc., 10%.....				25.86
Estimated Cost				284.52

149–20. Stop Gate. 44 x 20 x 6.

Lumber R W	at $27	M ft....	10.28	277.02
" O P	" 27	" " ...	.34	9.18
" Weirboards	" 50	" " ...	.80	40.00
" Battens	" 30	" " ...	.80	24.00
Carpenter Work	" 10	" " ...	12.20	122.00
Freight & Haul.	" 9	" " ...	do.	109.80
Earthwork, excavation & back fill.....				67.00
Incidental Expenses, etc., 10%.....				64.90
Estimated Cost				713.90

198–60. Pipe Box. 4 x 1 x 100 ft.

Estimated					400.00

213–34. Outlet Gate. 12 x 18 x 5. Left.

Lumber R W	at $27	M ft....	4.67	126.09	
Totals forward		" " ...	4.67	$126.09	$9,241.39

Fresno Co.

1413 Dos Palos Main Canal.

Brought Forward		M ft....	4.67	$126.09	$9,241.39
Lumber O P	at $27	" " ...	.80	21.60	
" Battens	" 30	" " ...	.40	12.00	
Carpenter Work	" 10	" " ...	5.87	58.70	
Freight & Haul.	" 9	" " ...	do.	52.83	
Earthwork, excavation & back fill				30.00	
Incidental Expenses, etc., 10%				30.12	
Estimated Cost					331.34

217–15. Bridge. 40 x 16.

Lumber R W	at $27	M ft....	2.13	57.31	
" O P	" 27	" " ...	3.22	86.94	
Carpenter Work	" 5	" " ...	5.35	26.75	
Freight & Haul.	" 9	" " ...	do.	48.15	
Earthwork				15.00	
Incidental Expenses, etc., 5%				11.71	
Estimated Cost					246.06

224–87. Outlet Gate. 8 x 20 x 4.

Same as at Sta. 148–30	284.52

232–56. Pipe Box. 12 x 2 x 100.

Estimated	700.00

236–32. Outlet Box. 4 x 3 x 18. Right.

Same as at Sta. 74–30	82.50

255–51. Outlet Gate. 8 x 20 x 6. Left.

Same as at Stat. 148–30	284.52

255–72. Outlet Gate. 8 x 20 x 5. Right.

Same as at Sta. 148–30 ..... 284.52

271–89. Outlet Gate. 12 x 18 x 5. Right.

Same as at Sta. 213–34 ..... 331.34

Total forward $11,786.19

Fresno Co.

1414 Dos Palos Main Canal.

Brought Forward $11,786.19

272–46. Outlet Gate. 8 x 20 x 4. Left.

Same as at Sta. 148–30 ..... 284.52

272–88. Stop Gate. 38 x 20 x 6 ft.

Same as at Sta. 74–87 ..... 713.90

283–88. Outlet Gate. 8 x 20 x 6. Right.

Same as at Sta. 148–30 ..... 284.52

293–40. Outlet Gate. 8 x 16 x 6. Right.

Same as at Sta. 148–30 ..... 284.52

293–78. Bridge. 40 x 16.

Same as at Sta. 217–15 ..... 246.06

308–45. Head Gate. 20 x 16 x 7. East Branch Canal.

Lumber R W	at $27	M Ft...	10.20	$275.40
" O P	" 27	" " ...	1.00	27.00
" Weirboards	" 50	" " ...	.52	26.00
" Battens	" 30	" " ...	.65	19.50
Carpenter Work	" 10	" " ...	12.37	123.70
Freight & Haul.	" 9	" " ...	do.	111.35
Earthwork				45.00
Incidental Expenses, etc., 10%				62.79

Estimated Cost 690.74

308–50. Outlet Gate. 8 x 10 x 7. Left.

Same as at Sta. 148–30 ..... 284.52

309–10. Outlet Gate. 3 x 16 x 6. Right.

Estimated 50.00

309–35. Stop Gate. 30 x 20 x 5.

Same as at Sta. 74–87..... 713.90

326–25. Outlet Gate. 3 x 20 x 6. Right.

Estimated 50.00

Total forward $15,388.87

Fresno Co.

1415 Dos Palos Main Canal.

Brought Forward $15,388.87

348–86. Outlet Gate. 4 x 20 x 6. Right.

Lumber	at $27 M ft....	0.80	21.60
Carpenter Work	" 10 " " ...	do.	8.00
Freight & Haul.	" 9 " " ...	do.	7.20
Earthwork			13.00
Incidental Expenses, etc., 10%.....			5.20

Estimated Cost $55.00

355–90. Outlet Gate. 4 x 20 x 6. Left.

Same as at Sta. 348–86..... 55.00

359–75. Head Gate. 18 x 24 x 6. West Branch Canal.

Same as at Sta. 308–45..... 690.74

360–000. Outlet Gate. 5 x 8 x 4. Right.

Estimated 50.00

362–04. Stop Gate. 36 x 24 x 5.

Same as at Sta. 74–87..... 713.90

370–16. Outlet Gate. 6 x 20 x 6. Left.

Same as at Sta. 143–89..... 258.39

387–00. Outlet Gate. 4 x 20 x 4. Left.

Same as at Sta. 348–86..... 55.00

388–00. Pipe Box. 12 x 4 x 150.

Estimated				1,000.00

388–30. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 348–86				55.00

389–36. Bridge. 90 x 16.

Lumber R W	at $27 M ft.	2.38	64.26	
" O P	" 27 " "	8.20	221.40	
Carpenter Work	" 5 " "	10.58	52.90	
Freight & Haul.	" 9 " "	do.	95.21	
Totals forward			$433.77	$18,321.90

Fresno Co.

1416 Dos Palos Main Canal.

Brought Forward			$433.77	$18,321.90
Earthwork			15.00	
Incidental Expenses, etc., 5%			22.43	
Estimated Cost				471.20

390–00. Outlet Gate. 4 x 20 x 6. Right.

Lumber R W	at $27 M ft.	3.63	98.01	
" O P	" 27 " "	.37	9.99	
" Battens	" 30 " "	.20	6.00	
Carpenter Work	" 10 " "	4.20	42.00	
Freight & Haul.	" 9 " "	do.	37.80	
Earthwork			26.00	
Incidental Expenses, etc., 10%			21.98	
Estimated Cost				241.78

396–70. Outlet Gate. 4 x 20 x 6. Left.

Same as at Sta. 390–00				241.78

398–00. Outlet Gate. 4 x 20 x 6. Right.

Same as at Sta. 390–00				241.78

402–00. Head Gate. 24 x 22 x 6. Branch No. 1.

Lumber R W	at $27	M ft....	8.24	222.48
" O P	" 27	" " ...	1.80	48.60
" Weirboards	" 50	" " ...	.30	15.00
" Battens	" 30	" " ...	.60	18.00
Carpenter Work	" 10	" " ...	10.94	109.40
Freight & Haul.	" 9	" " ...	do.	98.46
Earthwork				47.00
Incidental Expenses, etc., 10%				55.89
Estimated Cost				614.83

403–71. Outlet Box. 2 x 4 x 16. Right.

Same as at Sta. 74–30 ..... 82.50

Total forward $20,215.77

Fresno Co.

1417 Dos Palos Main Canal.

Brought Forward $20,215.77

403–88. Stop Gate. 38 x 20 x 6.

Same as at Sta. 74–87 ..... 713.90

404–55. Outlet Gate. 3 x 20 x 4. Right.

Same as at Sta. 348–86 ..... 55.00

409–14. Outlet Gate. 4 x 20 x 4. Left.

Same as at Sta. 348–86 ..... 55.00

415–64. Outlet Gate. 1½ x 20 x 4. Right.

Lumber	at $27	M ft....	0.60	16.20
Carpenter Work	" 10	" " ...	do.	6.00
Freight & Haul.	" 9	" " ...	do.	5.40
Earthwork				10.00
Incidental Expenses, etc., 10%				3.40
Estimated Cost				41.00

418–86. Outlet Gate. 3 x 20 x 4. Left.

Same as at Sta. 348–86 ..... 55.00

421–80. Outlet Gate. 3 x 20 x 4. Right.

Same as at Sta. 348–86 ..... 55.00

426–89. Bridge. 128 x 16.

Lumber R W	at $27	M ft....	5.07	35.49
" O P	" 27	" " ...	11.93	322.11
Carpenter Work	" 5	" " ...	17.00	85.00
Freight & Haul.	" 9	" " ...	do.	153.00
Earthwork				17.00
Incidental Expenses, etc., 5%.....				30.63
Estimated Cost				643.23

426–95. Outlet Gate. 6 x 20 x 4. Left.

Same as at Sta. 143–89.....	258.39
Total forward	$22,092.29

Fresno Co.

1418 Dos Palos Main Canal.

Brought Forward	$22,092.29

429–14. Bridge. 40 x 24.

Lumber R W	at $27	M ft....	2.36	63.72
" O P	" 27	" " ...	4.69	126.63
Carpenter Work	" 5	" " ...	7.05	35.25
Freight & Haul.	" 9	" " ...	do.	63.45
Earthwork				20.00
Incidental Expenses, etc., 5%.....				15.45
Estimated Cost				324.50

429–52. Outlet Gate. 4 x 28 x 5. Right.

Same as at Sta. 390–00.....	241.78

429–52. Outlet Gate. 4 x 28 x 5. Left.

Same as at Sta. 390–00.....	241.78

433–40. Outlet Gate. 12 x 16 x 5. Right.

Same as at Sta. 213–34.....	331.34

433–40. Outlet Gate. 4 x 24 x 5. Left.

Same as at Sta. 390-00.....	241.78

433–78. Stop Gate. 38 x 20 x 6.

Same as at Sta. 74–87	713.90

438–36. Outlet Gate. 4 x 20 x 4. Left.

Same as at Sta. 348–86 ..... 55.00

438–40. Outlet Gate. 8 x 16 x 6. Right.

Same as at Sta. 148–30 ..... 284.52

448–78. Outlet Gate. 2 x 20 x 4. Right.

Same as at Sta. 415–64 ..... 41.00

451–15. Outlet Gate. 4 x 20 x 5. Left.

Same as at Sta. 390–00 ..... 241.78

455–40. Outlet Gate. 2 x 20 x 4. Left.

Same as at Sta. 415–64 ..... 41.00

Total forward $24,850.67

Fresno Co.

1419 Dos Palos Main Canal.

Brought Forward $24,850.67

455–80. Outlet Gate. 4 x 18 x 5. Right.

Same as at Sta. 390–00 ..... 241.78

459–54. Outlet Gate. 4 x 18 x 5. Left.

Same as at Sta. 390–00 ..... 241.78

462–33. Outlet Gate. 4 x 18 x 5. Left.

Same as at Sta. 390–00 ..... 241.78

466–45. Bridge. 40 x 24.

Same as at Sta. 429–14 ..... 324.50

467–00. County Line, Merced & Fresno.

Measuring Gates on Old Outlet Gates:

17– 4	ft.	Openings @	20.00	340.00
3– 6	"	" "	22.50	67.50
8– 8	"	" "	25.00	200.00
3–12	"	" "	62.50	187.50
1–16	"	" "	90.00	90.00
3–20	"	" "	117.00	351.00

Total 1,236.00

Total Estimated Cost $27,136.51

Dos Palos Main Canal.

Length of Canal in Fresno County 46,700 ft. 8.84 Miles.
Right of way 156 ft. in width.

Sections of Canal.

9,000 ft.	base	25 ft.	inside slopes	2	:1	Average cut	2:0	ft.
16,000 "	"	40 "	" "	2½	:1	" "	1:7	
21,700 "	"	35 "	" "	2	:1	" "	1:5	

Side Canal 16,900 ft. 6 ft. base 2:1 slopes. Cut 1:5 ft.

Fresno Co.

1420 Fresno County.

Estimated Cost of Dos Palos Branch Canal No. 1.

Stop and Outlet Gate, Bridges, etc.	$7,342.50
Earth Excavation 38,787 yds. @ 8¢	3,102.96
Engineering and General Superintendence, etc., 10%	1,044.54
Total	$11,490.00

Right of way 41.6 acres @ —.
List of Stop and Outlet Gates, Bridges, etc., on following pages.

1421 Dos Palos Branch Canal No. 1.

Station 6–00. Station 402–00. Main Canal.

0–75. Outlet Gate. 8 x 20 x 5. Right.

Estimated			$375.00

5–00. Outlet Gate. 4 x 14 x 4. Left.

Lumber R W	at $27	M ft.	1.00	$27.00
" O P	" 27	" "	.30	8.10
Carpenter Work	" 10	" "	1.30	13.00
Freight & Haul.	" 9	" "	do.	11.70
Earthwork, excavation & back fill				20.00
Incidental Expenses, etc., 10%				7.98
Incidental Expenses, etc., 10%				7.98

6–85. Outlet Gate. 4 x 12 x 4. Right.

Lumber R W	at $27	M ft.	1.00	27.00
Carpenter Work	" 10	" "	do.	10.00
Freight & Haul.	" 9	" "	do.	9.00
Earthwork, excavation & back fill				20.00
Incidental Expenses, etc., 10%				6.60
Estimated Cost				72.60

11–5. Outlet Gate. 4 x 16 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

14–60. Outlet Gate. 3 x 14 x 4. Left.

Same as at Sta. 6–85 ..... 72.60

14–89. Outlet Gate. 3 x 14 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

17–73. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

18–15. Outlet Gate. 4 x 14 x 4. Left.

Same as at Sta. 5–00 ..... 87.78

Total forward $913.56

Fresno.

1422 Dos Palos Branch Canal No. 1.

Brought Forward $913.56

21–45. Outlet Gate. 4 x 16 x 4. Left.

Same as at Sta. 5–00 ..... 87.78

24–72. Outlet Gate. 3 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

28–36. Outlet Gate. 3 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

31–83. Outlet Gate. 3 x 12 x 4. Left.

Same as at Sta. 5–00 ..... 87.78

34–20. Outlet Gate. 4 x 8 x 4. Left.

Same as at Sta. 6–85 ..... 72.60

34–79. Stop Gate. 24 x 16 x 7.

Lumber R W	at $27 M ft. ...	9.00	$243.00
" Weirboards	" 50 " " ...	.40	20.00
" Battens	" 30 " " ...	.60	18.00
Carpenter Work	" 10 " " ...	10.00	100.00
Freight & Haul.	" 9 " " ...	do.	90.00
Earthwork, excavation & back fill			58.00
Incidental Expenses, etc., 10%			52.90

Estimated Cost 581.90

35–60. Outlet Gate. 2 x 20 x 3. Left.

Lumber	at $27 M ft....	0.60	16.20
Carpenter Work	" 10 " " ...	do.	6.00
Freight & Haul.	" 9 " "		5.40
Earthwork			10.00
Incidental Expenses, etc., 10%.....			3.40
Estimated Cost			41.00

41–07. Outlet Gate. 4 x 14 x 4. Right.

Same as at Sta. 5–00..... 87.78

Total forward $2,017.60

Fresno Co.

1423 Dos Palos Branch Canal No. 1.

Brought Forward $2,017.60

47–42. Bridge. 20 x 16.

Lumber R W	at $27 M ft....	1.77	47.79
" O P	" 27 " " ...	2.33	62.91
Carpenter Work	" 5 " " ...	4.10	20.50
Freight & Haul.	" 9 " " ...	do.	36.90
Earthwork, bank & approaches.....			15.00
Incidental Expenses, etc., 5%.....			9.15
Estimated Cost			192.25

47–63. Outlet Gate. 4 x 8 x 4. Left.

Same as at Sta. 6–85..... 72.60

47–63. Outlet Gate. 4 x 12 x 3. Right.

Same as at Sta. 6–85..... 72.60

49–86. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 35–60..... 41.00

54–03. Outlet Gate. 3 x 14 x 3. Right.

Same as at Sta. 5–00..... 87.78

54–10. Outlet Gate. 3 x 30 x 3. Left.

Estimated $125.00

57–51. Bridge. 18 x 12.

Lumber R W	at $27 M ft....	1.77	47.79
" O P	" 27 " " ...	1.48	39.96
Carpenter Work	" 5 " " ...	3.25	16.25
Freight & Haul.	" 9 " " ...	do.	29.25
Earthwork, bank & approaches.....			15.00
Incidental Expenses, etc., 5%.....			7.41
Estimated Cost			155.66

58–21. Outlet Gate. 4 x 14 x 5. Right.

Same as at Sta. 6–85..... 72.60

Total forward $2,837.09

Fresno Co.

1424 Dos Palos Branch Canal No. 1.

Brought Forward $2,837.09

58–64. Outlet Gate. 2 x 24 x 3. Right.

Same as at Sta. 35–60..... 41.00

60–60. Outlet Gate. 4 x 8 x 4. Right.

Same as at Sta. 6–85..... 72.60

63–93. Outlet Gate. 4 x 6 x 3. Left.

Same as at Sta. 6–85..... 72.60

66–05. Outlet Gate. 3 x 14 x 4. Right.

Same as at Sta. 5–00..... 87.78

73–63. Bridge. 24 x 16.

Same as at Sta. 47–42..... 192.25

73–89. Outlet Gate. 4 x 8 x 4. Left.

Same as at Sta. 6–85..... 72.60

73–89. Outlet Gate. 4 x 8 x 4. Right.

Same as at Sta. 6–85..... 72.60

78–48. Outlet Gate. 3 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

83–32. Outlet Gate. 3 x 12 x 4. Right.

Same as at Sta. 5–85 ..... 72.60

86–55. Outlet Gate. 4 x 12 x 5. Left.

Same as at Sta. 6–85 ..... 72.60

86–70. Head Gate. 16 x 16 x 7. Branch No. 2.

Lumber R W	at $27	M ft....	7.20	194.40
" Weirboards	" 50	" " ...	.32	17.50
" Battens	" 30	" " ...	.45	13.50
Carpenter Work	" 10	" " ...	8.00	80.00
Freight & Haul.	" 9	" " ...	do.	72.00
Earthwork, excavation & back fill.....				30.00
Incidental Expenses, etc., 10%.....				40.74
Estimated Cost				448.14
Total Forward				$4,114.46

Fresno Co.

1425 Dos Palos Branch Canal No. 1.

Brought Forward $4,114.46

87–30. Stop Gate. 24 x 16 x 7.

Same as at Sta. 34–79 ..... 581.90

98–81. Bridge 24 x 16.

Same as at Sta. 47–42 ..... 192.25

100–07. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

106–40. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

112–98. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85 ..... 72.60

118–82. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85		72.60

118–96. Outlet Gate. 8 x 18 x 6. Left.

Lumber R W	at $27 M ft....	4.30	116.10
" O P	" 27 " " ...	.50	13.50
" Battens	" 30 " " ...	.20	6.00
Carpenter Work	" 10 " " ...	4.90	49.00
Freight & Haul.	" 9 " " ...	do.	44.10
Earthwork, excavation & back fill.....			30.00
Incidental Expenses, etc., 10%.....			25.87
Estimated Cost			$284.57

119–90. Stop Gate. 24 x 16 x 6.

Same as at Sta. 34–79.....	581.90

125–65. Outlet Gate. 8 x 18 x 6. Left.

Same as at Sta. 118–96.....	284.57

125–90. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85.....	72.60
Total forward	$6,402.65

Fresno Co.

1426 Dos Palos Branch Canal No. 1.

Brought Forward	$6,402.65

126–40. Bridge. 24 x 16.

Same as at Sta. 47–42.....	192.25

139–08. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 6–85.....	72.60

145–00. County Line Merced & Fresno.

Measuring Gates on Old Outlet Gates.

30–4 ft. Opening @ $20.00.....	600.00	
3–8 " " " 25.00.....	75.00	
Estimated Cost		675.00
Total Estimated Cost.....		$7,342.50

Dos Palos Branch Canal No. 1.

Length of Canal in Fresno County 14,500 feet, 2.75 miles.

Right of way 125 feet in width.

Canal Section.

Base 20 ft. inside slopes, 2½: 1 cut 2.7 ft.

Fresno Co.

1427 Fresno County.

Estimated Cost of Dos Palos Branch Canal No. 2.

Stop and outlet gates, bridges, etc.	$3,167.04
Earth excavation 14,124 yds. @ 8¢	1,129.92
Engineering and general superintendence 10%	429.69
Total	$4,726.65

Right of way, 13.8 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1428 Dos Palos Branch Canal No. 2.

Station 0–00. Station 86–70. Branch No. 1.

1–65. Outlet Gate. 4 x 14 x 4. Left.

Lumber R W	at $27 M ft.	1.00	27.00
Carpenter Work	" 10 " "	do.	10.00
Freight & Haul.	" 9 " "	do.	9.00
Earthwork, excavation & back fill			20.00
Incidental Expenses, etc., 10%			6.60
Estimated Cost			72.60

1–65. Outlet Gate. 4 x 14 x 4 Right.

Same as at Sta. 1–65 ..... 72.60

5–83. Outlet Gate. 4 x 20 x 4. Left.

Lumber	at $27 M ft.	0.80	21.60
Carpenter Work	" 10 " "	do.	8.00
Freight & Haul.	" 9 " "	do.	7.20
Earthwork			13.00
Incidental Expenses, etc., 10%			5.20
Estimated Cost			55.00

9–60. Outlet Gate. 4 x 20 x 4. Left.

Same as at Sta. 5–83	55 00

11–00. Outlet Gate. 2 x 4 x 3. Right.

Estimated	20.00

12–47. Outlet Gate. 2 x 4 x 3. Right.

Estimated	20.00

14–69. Outlet Gate. 4 x 14 x 4. Left.

Same as at Sta. 1–65	72.60

14–69. Outlet Gate. 4 x 14 x 4. Right.

Same as at Sta. 1–65	72.60

18–80. Outlet Gate. 2 x 8 x 4. Right.

Estimated	30.00
Total forward	$470.40

Fresno Co.

1429 Dos Palos Branch Canal No. 2.

Brought Forward				$470.40

19–00. Outlet Gate. 6 x 18 x 4. Right.

Lumber R W	at $27	M ft.	3.42	90.34
" O P	" 27	" "	.38	10.26
Carpenter Work	" 10	" "	3.80	38.00
Freight & Haul.	" 9	" "	do.	34.20
Earthwork, excavation & back fill				30.00
Incidental Expenses, etc., 10%				20.28
Estimated Cost				223.08

19–30. Stop Gate. 16 x 16 x 6.

Lumber R W	at $27	M ft.	7.20	194.40
" Weirboards	" 50	" "	.35	17.50
" Battens	" 30	" "	.45	13.50
Carpenter Work	" 10	" "	8.00	80.00
Freight & Haul.	" 9	" "	do.	72.00
Earthwork, excavation & back fill				48.00
Incidental Expenses, etc., 10%				42.54
Estimated Cost				467.94

26–56. Outlet Gate. 2 x 8 x 2. Right.

Estimated			30.00

31–40. Outlet Gate. 2 x 20 x 4. Left.

Lumber	at $27 M ft....	0.60	16.20	
Carpenter Work	" 10 " " ...	do.	6.00	
Freight & Haul.	" 9 " " ...	do.	5.40	
Earthwork			10.00	
Incidental Expenses, etc., 10%			3.40	
Estimated Cost				41.00
Total forward				$1,232.42

Fresno Co.

1430 Dos Palos Branch Canal No. 2.

Brought Forward				$1,232.42

32–12. Bridge. 16 x 16.

Lumber R W	at $27 M ft....	1.52	41.04	
" O P	" 27 " " ...	1.53	41.31	
Carpenter Work	" 5 " " ...	3.05	15.25	
Freight & Haul.	" 9 " " ...	do.	27.45	
Earthwork, bank & approaches			15.00	
Incidental Expenses, etc., 5%			7.00	
Estimated Cost				147.05

32–30. Outlet Gate. 4 x 16 x 4. Left.

Lumber R W	at $27 M ft....	1.00	27.00	
" O P	" 27 " " ...	.30	8.10	
Carpenter Work	" 10 " " ...	1.30	13.00	
Freight & Haul.	" 9 " " ...	do.	11.70	
Earthwork, excavation & back fill			20.00	
Incidental Expenses, etc., 10%			7.98	
Estimated Cost				87.78

32–30. Outlet Gate. 8 x 12 x 4. Left.

Lumber R W	at $27 M ft....	4.00	108.00	
" Battens	" 30 " " ...	.20	6.00	
Carpenter Work	" 10 " " ...	4.20	42.00	
Freight & Haul.	" 9 " " ...	do.	37.80	
Earthwork, excavation & back fill			30.00	
Incidental Expenses, etc., 10%			22.38	
Estimated Cost				246.18

34–86. Outlet Gate. 2 x 8 x 3. Right.

Estimated 30.00

35–06. Stop Gate. 16 x 16 x 6.

Same as at Sta. 19–30 ..... 467.94

Total forward $2,211.37

Fresno Co.

1431 Dos Palos Branch Canal No. 2.

Brought Forward $2,211.37

36–70. Outlet Gate. 4 x 12 x 4. Left.

Same as at Sta. 32–30..... 87.78

40–88. Outlet Gate. 4 x 20 x 4. Right.

Estimated 100.00

41–90. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 5–83..... 55.00

45–10. Outlet Gate. 3 x 20 x 4. Left.

Same as at Sta. 5–83 ..... 55.00

45–20. Bridge. 16 x 16.

Same as at Sta. 32–12..... 147.05

47–89. Outlet Gate. 4 x 16 x 4. Right.

Same as at Sta. 32–30..... 87.78

49–13. Outlet Gate. 4 x 16 x 4. Left.

Same as at Sta. 32–30..... 87.78

51–89. Outlet Gate. 4 x 16 x 4. Left.

Same as at Sta. 32–30..... 87.78

Measuring Gates on Old Outlet Gates.

52–80. County Line, Merced & Fresno.

10–4 ft.	Openings @	$20.00	200.00
1–6 "	" "	22.50	22.50
1–8 "	" "	25.00	25.00
	Total		247.50
	Total Estimated Cost.....		$3,167.04

Dos Palos Branch Canal No. 2.

Length of Canal in Fresno County 5,280 ft. 1 mile.
Right of way 114 feet in width.

Section of Canal.

20 ft. base inside slopes 2½: 1 cut 2.7 ft.

Fresno Co.

1432 Fresno County.

Estimated Cost of Outside Canal.

Stop Gates, Outlet Gates, Bridges, etc.				$15,827.37
Earth Excavation	532,400 yds. @	10¢	..	53,240.00
" " Side Canal	80,000 " "	7¢	..	5,600.00
Engineering and General Superintendence 10%				7,466.73
Total				$82,134.10

Right of way 459 acres @ —.
List of Stop and Outlet Gates, Bridges, etc. on following pages.

1433 Outside Canal.

Station 0–00. Head Gate. 60 x 16 x 7 ft. deep.

Lumber R W	at $27 M ft.	14.06		$379.62
" O P	" 27 " "	.44		11.88
" Weirboards	" 50 " "	.96		48.00
" Battens	" 30 " "	1.00		30.00
Carpenter Work	" 10 " "	16.46		164.60
Lumber Piles O P	" 27 " "	2.60		70.20
Freight & Haul.	" 10 " "	19.06		190.60
Pile Driv. Sheet 840 @ 1.00				840.00
Earthwork, excavation & Back fill				70.00
Incidental Expenses, bolts, etc., 10%				180.49
Estimated Cost				$1,985.39

191–47. Outlet Gate. 10 x 18 x 6 ft. deep.

Lumber R W	at $27 M ft.	5.13		138.51
" O P	" 27 " "	.72		19.44
" Weirboards	" 50 " "	.18		9.00
" Battens	" 30 " "	.40		12.00
Carpenter Work	" 10 " "	6.43		64.30
Freight & Haul.	" 9 " "	do.		57.87
Earthwork, excavation & back fill				30.00
Incidental Expenses, Bolts, etc., 10%				33.11
Estimated Cost				364.23

245–58. Bridge. 108 x 18.

Lumber R W	at $27	M ft....	4.00	108.00
" O P	" 27	" " ...	9.50	256.50
Carpenter Work	" 5	" " ...	13.50	67.50
Freight & Haul.	" 9	" " ...	do.	121.50
Earthwork, Trenching & Approaches.....				15.00
Totals forward				$568.50 $2,349.62

Fresno Co.

1434 Outside Canal.

Brought Forward				$568.50 $2,349.62
Incidental Expenses, etc., 5%.....				28.42
Estimated Cost				596.92

245–58. Bridge. 20 x 8. Side Canal.

Lumber R W	at $27	M ft....	.50	13.50
" O P	" 27	" " ...	.50	13.50
Carpenter Work	" 5	" " ...	1.00	5.00
Freight & Haul.	" 9	" " ...	do.	9.00
Earthwork Approaches				2.00
Incidental Expenses, etc., 5%.....				2.15
Estimated Cost				45.15

266–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Lumber R W	at $27	M ft....	2.67	72.09
Carpenter Work	" 10	" " ...	do.	26.70
Freight & Haul.	" 9	" " ...	do.	24.03
Earthwork, excavation & back fill.....				14.00
Incidental Expenses, etc., 10%.....				13.68
Estimated Cost				150.50

267–66. Outlet Gate. 12 x 18 x 6 ft.

Same as at Sta. 191–47.....				364.23

269–37. Stop Gate. 60 x 14 x 6 ft.

Lumber R W	at $27	M ft....	14.06	379.62
" O P	" 27	" " ...	.44	11.88
" Weirboards	" 50	" " ...	.96	48.00
" Battens	" 30	" " ...	1.	30.
Carpenter Work	" 10	" " ...	16.46	164.60
Freight & Haul.	" 9	" " ...	do.	148.14
Totals forward				$782.24 $3,506.42

Fresno Co.

1435 Outside Canal.

Brought Forward	$782.24	$3,506.42
Earthwork, excavation & back fill	70.00	
Incidental Expenses, Bolts, etc., 10%	85.22	
Estimated Cost		937.46

392–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00 ..... 150.50

392–87. Bridge. 80 x 24.

Lumber R W	at $27 M ft.	3.05	82.35
" O P	" 27 " "	9.38	253.26
Carpenter Work	" 5 " "	12.43	62.15
Freight & Haul.	" 9 " "	do.	111.87
Earthwork, Trenching & Approaches			25.00
Incidental Expenses, etc., 5%			26.73
Estimated Cost			561.36

392–87. Bridge. 20 x 8 ft. Side Canal.

Same as at Sta. 245–58 ..... 45.15

406–43. Bridge. 80 x 16 ft. Outlet Canal No. 1.

Lumber R W	at $27 M ft.	3.17	85.59
" O P	" 27 " "	6.31	170.37
Carpenter Work	" 5 " "	9.48	47.40
Freight & Haul.	" 9 " "	do.	85.32
Earthwork, trenching only			2.00
Incidental Expenses, etc., 5%			19.53
Estimated Cost			410.21

407–50. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00 ..... 150.50

407–76. Stop Gate. 60 x 12 x 6 ft.

Same as at Sta. 269–37 ..... 937.46

Total forward $6,699.06

Fresno Co.

1436 Outside Canal.

Brought Forward $6,699.06

497–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00..... 150.50

500–18. Outlet Gate. 10 x 20 x 6 ft.

Same as at Sta. 191–47..... 364.23

535–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00..... 150.50

537–00. Stop Gate. 10 x 12 x 4 ft. Side Canal.

Same as at Sta. 266–00..... 150.50

587–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00..... 150.50

589–92. Bridge. 100 x 15. Outlet Canal No. 2.

Lumber R W	at $27 M ft....	3.22	86.94
" O P	" 27 " " ...	3.05	82.35
Carpenter Work	" 5 " " ...	6.27	31.35
Freight & Haul.	" 9 " " ...	do.	56.43
Earthwork, trenching & approaches.....			15.00
Incidental Expenses, 5%.....			13.60

Estimated Cost 285.67

593–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00..... 150.50

601–70. Outlet Gate. 10 x 20 x 6 ft.

Same as at Sta. 191–47..... 364.23

602–93. Stop Gate. 60 x 18 x 6 ft.

Same as at Sta. 269–37..... 937.46

607–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00..... 150.50

715–85. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00 ..... 150.50

Total Forward $9,704.15

Fresno Co.

1437 Outside Canal.

Brought Forward $9,704.15

716–15. Outlet Gate. 10 x 20 x 6.

Same as at Sta. 191–47 ..... 364.23

720–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00 ..... 150.50

783–50. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00 ..... 150.50

786–55. Outlet Gate. 10 x 20 x 6.

Same as at Sta. 191–47 ..... 364.23

786–55. Bulkhead. 30 ft. long. Side Canal.

Estimated 45.00

787–70. Stop Gate. 60 x 18 x 6 ft.

Same as at Sta. 269–37 ..... 937.46

791–00. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00 ..... 150.50

852–10. Bridge. 60 x 24.

Lumber R W	at $27 M ft....	3.45	93.15
" O P	" 27 " " ...	7.00	189.00
Carpenter Work	" 5 " " ...	10.45	52.25
Freight & Haul.	" 12 " " ...	do.	125.40
Earthwork, trenching & approaches.....			25.00
Incidental Expenses, etc., 5%.....			24.24

Estimated Cost 509.04

852–10. Bridge. 20 x 8. Side Canal.

Same as at Sta. 245–58					45.15

969–77. Bridge. 60 x 16. Outlet Canal No. 3.

Lumber R W	at $27	M ft.	1.58	42.66	
" O P	" 27	" "	4.82	130.14	
Totals forward	" "	" "	6.40	$172.80	$12,420.76

Fresno Co.

1438 Outside Canal.

Brought Forward		M ft.	6.40	$172.80	$12,420.76
Carpenter Work	at $5	" "	do.	32.00	
Freight & Haul.	" 12	" "	do.	76.80	
Earthwork (trenching only)				3.00	
Incidental Expenses, etc., 5%				14.23	
Estimated Cost					298.83

969. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00					150.50

969. Stop Gate. 10 x 10 x 4 ft. Side Canal.

Same as at Sta. 266–00					150.50

971–53. Stop Gate. 60 x 18 x 6 ft.

Lumber R W	at $27	M ft.	14.06	379.62	
" O P	" 27	" "	.44	11.88	
" Weirboards	@ 50	" "	.96	48.00	
" Battens	" 30	" "	1.00	30.00	
Carpenter Work	" 10	" "	16.46	164.60	
Freight & Haul.	" 12	" "	do.	197.52	
Earthwork, excavation & back fill				70.00	
Incidental Expenses, Bolts, etc., 10%				90.16	
Estimated Cost					991.78

25. Small Outlet Gates on Side Canal.

Estimated at $45.00					1,125.00

1000–00. County Line Merced County.

Measuring Gates on Outlet Gates.

12 ft. Opening	1 @ $63.00	63.00	
10 " "	11 " 57.00	627.00	
Total			690.00
Total Estimated Cost			$15,827.37

Fresno Co.

1439 Outside Canal.

Length of Canal in Fresno County 100,000 ft.= 18.94 miles.

Right of Way 200 Feet in Width.

Base 50 ft. inside slopes 3:1. Average Cut 2.50 Ft.
Side Canal 100,000 ft. 10 ft. base; Average Cut 1.60 ft.

1440 Estimated Cost of Outlet Canal No. 1.

Head gate and drops	$2,908.08
Earth excavation 18,835 yds. @ 10¢	1,883.50
Engineering and general superintendence, etc., 10%	479.15
Total	$5,270.73

Right of way ——.

List of head and stop gates on following page.

1441 Outlet Canal No. 1.

Head Gate. 40 x 14 x 6 ft.

Lumber	R W	at $27	M ft....	10.26	$276.75
"	O P	" 27	" " ...	.34	9.18
"	Weirboards	" 50	" " ...	.80	40.00
"	Battens	" 30	" " ...	.80	24.00
Carpenter Work		" 10	" " ...	12.20	122.00
Freight & Haul.		" 10	" " ...	do.	122.00
Earthwork, excavation & back fill.....					67.00
Incidental Expenses, Bolts, etc., 10%.....					66.09
Estimated Cost					$727.02
3 Drops, Same as above.....					2,181.06
Estimated Cost					$2,908.08

Outlet Canal No. 1.

Length of Canal 4,350 ft.=.82 miles.
30 ft. base, inside slopes 3:1; Average cut 3 ft.

Fresno Co.

1442 Estimated Cost of Outlet Canal No. 2.

Head gate and drops	$2,396.58
Earth excavation 18,900 yds. @ 8¢	1,512.00
Engineering and general superintendence, etc., 10%	390.85
Total Estimated Cost	$4,299.43

Right of way ——.

List of head and stop gates on following page.

1443 Outlet Canal No. 2.

Head Gate. 16 x 14 x 6 ft.

Lumber R W	at $27	M ft.	5.96	$160.92
" Weirboards	" 50	" "	.21	10.50
" Battens	" 30	" "	.50	15.00
Carpenter Work	" 10	" "	6.67	66.70
Freight & Haul.	" 9	" "	do.	60.00
Earthwork, excavation & back fill				50.00
Incidental Expenses, etc., Bolts, 10%				36.31
Estimated Cost				399.43
5 Drops, Same as above				1,997.15
Total Estimated Cost				$2,396.58

Length of Canal 5,870 ft. = 1.11 miles.
20 ft. base, inside slopes 3:1; Average cut 3 feet.

1444 *Estimated Cost of Outlet Canal No. 3.*

Head Gate and Drops	$3,029 56
Earth Excavation 24,724 yds. @ 10¢	2,472.40
Engineering General Superintendence, etc., 10%	550.19
Total Estimated Cost	$6,052.15

Right of Way —.

List of Head and Stop Gates on following page.

1445 Outlet Canal No. 3.

Head Gate. 24 x 18 x 7 ft.

Lumber R W	at $27	M ft....	9.45	$255.15
" Weirboards	" 50	" " ...	.38	19.00
" Battens	" 30	" " ...	.70	21.00
Carpenter Work	" 10	" " ...	10.53	105.30
Freight & Haul.	" 10	" " ...	do.	105.30
Earthwork, excavation & back fill.....				58.00
Incidental Expenses, Bolts, etc.; 10%.....				56.37
Estimated Cost				620.12

Drop. 30 x 18 x 5 ft.

Lumber R W.	at $27	M ft....	9.20	248.40
" Weirboards	@ 50	" " ...	.36	18.00
" Battens	" 30	" " ...	.64	19.20
Carpenter Work	" 10	" " ...	10.20	102.00
Freight & Haul.	" 10	" " ...	do.	102.00
Earthwork, excavation & back fill.....				58.76
Incidental expenses, bolts, etc., 10%.....				54.76
Estimated Cost				602.36
3 Drops, Same as above				1,807.08
Total Estimated Cost.....				$3,029.56

Outlet Canal No. 3.

Length of Canal 5,710 ft. = 1.08 miles.
30 ft. base, inside slopes 3:1; average cut 3 feet.

1446 *Estimated Cost of the Works of the San Joaquin and Kings River Canal and Irrigation Company in Merced County.*

Main Canal	Page	1.....	$74,069.12
" " Extension A	"	8.....	139,652.12
Parallel "	"	27.....	58,882.20
Dos Palos Main Canal	"	36.....	14,670.80
" " " " Extension	"	43.....	17,668.93
" " Branch Canal No. 1	"	51.....	6,453.42
" " " " " 2	"	54.....	13,265.23
" " " " " 3	"	59.....	14,977.83
" " " " " 4	"	68.....	9,321.54
Outside Canal	"	76.....	86,716.32
" " Extension	"	86.....	74,828.57
" " No. 4	"	94.....	3,384.30
" " " 5	"	96.....	7,823.22
Canal Station Improvements			1,700.00
" " Horses			200.00
" " Carts and Wagons			562.00
Total			$524,175.60

San Francisco, Cal., December 24th, 1906.

1447 Merced County.

Estimated Cost of Main Canal.

Stop Gates, Outlet Gates, Bridges, etc.		$16,117.37
Earth Excavation	467,900 yds. @ 10¢ ..	46,790.00
" " Drain Canal	46,320 " " 7¢ ..	3,242.40
Telephone Line, 16.94 miles, at $70.00		1,185.80
Engineering and General Superintendence, etc., 10% ..		6,733.55
Total		74,069.12

Right of way 410.77 acres @ —.

List of Stop and Outlet Gates, Bridges, etc. on following pages:

1448 Main Canal.

Station 1122–00. County Line—Merced & Fresno.

1128–00. Inlet Box. 6 x 2 x 28.

Lumber R W	at $27 M ft....	2.50	67.50
Carpenter Work	" 5 " " ...	do.	12.50
Freight & Haul.	" 10 " " ...	do.	25.00
Earthwork, excavation & back fill			10.00
Incidental Expenses, etc., 5%			5.75
Estimated Cost			120.75

1129–40. Inlet Gate. 10 ft. Opening.

Lumber R W	at $27 M ft....	5.20	140.40
" O P	" 27 " " ...	0.32	8.64
Carpenter Work	" 10 " " ...	5.52	55.20
Freight & Haul.	" 10 " " ...	do.	55.20
Earthwork, excavation & back fill			30.00
Incidental Expenses, etc., 10%			28.94
Estimated Cost			318.38

1163–00. Outlet Gate. 5 ft. Opening.

Lumber R W	at $27 M ft....	4.10	110.70
" O P	" 27 " " ...	0.36	9.72
Carpenter Work	" 10 " " ...	4.46	44.60
Freight & Haul.	" 10 " " ...	do.	44.60
Earthwork, excavation & back fill			27.00
Incidental Expenses, etc., 10%			23.66
Estimated Cost			260.28

1286–70. Inlet Gate. 10 ft. Opening.

Same as at Sta. 1129–40	318.38

1346–00. Inlet Gate. 10 ft. Opening.

Same as at Sta. 1129-40	318.38
	$1,336.17

Merced Co.

1449 Main Canal.

Brought Forward	$1,336.17

1346–20. Waste Gate. 48 x 28 x 8. Camp 13.

Lumber R W	at $27	M ft.	21.15	571.05
" O P	" 27	" "	7.95	213.65
" Weirboards	" 30	" "	1.20	60.00
" Battens	" 30	" "	1.50	45.00
" Piles—sheet	" 27	" "	10.20	275.40
Carpenter Work	" 10	" "	42.00	420.00
Freight & Haul.	" 10	" "	do.	420.00
Driv. Piles 34 at $2.50				85.00
Earthwork, excavation & back fill				80.00
Incidental expenses, etc., 10%				217.01
Estimated Cost				$2,387.11

1347–13. Stop Gate. 48 — 20 x 8.

Lumber R W	at $27	M ft.	18.20	491.40
" O P	" 13	" "	4.50	121.50
" Weirboards	" 50	" "	1.15	57.50
" Battens	" 30	" "	1.00	30.00
" Piles	" 27	" "	5.15	139.05
Carpenter Work	" 10	" "	30.00	300.00
Freight & Haul.	" 10	" "	do.	300.00
Driving piles 28 at 2.50				70.00
Earthwork, excavation & back fill				70.00
Incidental expenses, etc., 10%				157.94
Estimated Cost				$1,737.39

1359–00. Inlet Gate. 10 ft. Opening.

Same as at Sta. 1129–40	318.38

1375–70. Inlet Gate. 10 ft. Opening.

Same as at Sta. 1129–40	318.38
Total forward	$6,097.43

Merced Co.

1450 Main Canal.

Brought Forward				$6,097.43
1396–20. Inlet Gate. 10 ft. Opening.				
Same as at Sta. 1129–40				318.38
1460–30. Inlet Gate. 10 ft. Opening.				
Same as at Sta. 1129–40				318.38
1499–75. Inlet Box. 3 x 12 x 3.				
Lumber R W	at $27 M ft....	1.30	35.10	
Carpenter Work	" 10 " " ...	do.	13.00	
Freight & Haul.	" 10 " " ...	do.	13.00	
Earthwork, excavation & back fill			20.00	
Incidental Expenses, etc., 10%			8.11	
Estimated Cost				89.21
1517–33. Bridge. 67 x 14.				
Lumber R W	at $27 M ft....	1.28	34.56	
" O P	" 27 " " ...	4.32	116.64	
Carpenter Work	" 5 " " ...	5.60	28.00	
Freight & Haul.	" 10 " " ...	do.	56.00	
Earthwork			25.00	
Incidental Expenses, etc., 5%			13.01	
Estimated Cost				273.21
1615–55. Outlook Gate. 5 ft. Opening.				
Same as at Sta. 1163–00				260.28
1644–15. Bridge. 54 x 16.				
Lumber R W	at $27 M ft....	1.42	38.34	
" O P	" 27 " " ...	4.88	131.76	
Carpenter Work	" 5 " " ...	6.30	31.50	
Totals forward		6.30	201.60	$7,675.27

Merced Co.

1451 Main Canal.

Brought Forward	M ft....	6.30	201.60	$7,675.27
Freight & Haul.	at $10 " " ...	6.30	63.00	
Earthwork			25.00	
Incidental Expenses, etc., 5%			14.48	
Estimated Cost				304.08

1650–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1163–00			260.28

1713–90. Bridge. 56 x 16.

Lumber R W	at $27	M ft....	1.42	38.34
" O P	" 27	" " ...	5.98	161.46
Carpenter Work	" 5	" " ...	7.40	37.00
Freight & Haul.	" 10	" " ...	do.	74.00
Earthwork				25.00
Incidental Expenses, etc., 5%				16.79
				352.59

1717–40. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1163–00			260.28

1745–54. Pipe Drain.

Estimated Cost			1,200.00

1778–57. Bridge. 50 x 20.

Lumber R W	at $27	M ft....	2.85	76.68
" O P	" 27	" " ...	5.52	149.04
Carpenter Work	" 5	" " ...	8.36	41.80
Freight & Haul.	" 10	" " ...	do.	83.60
Earthwork				25.00
Incidental Expenses, etc., 5%				18.80
Estimated Cost				394.92

1800–58. Bridge.

Estimated Cost			375.00
Total Forward			$10,822.42

Merced Co.

1452 Main Canal.

Brought Forward			$10,822.42

1814–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1163–00			260.28

1835–92. Bridge. 54 x 12.

Lumber R W	at $27 M ft....	1.70	45.90
" O P	" 27 " " ...	4.02	108.54
Carpenter Work	" 5 " " ...	5.72	28.60
Freight & Haul.	" 10 " " ...	do.	57.20
Earthwork			25.00
Incidental Expenses, etc., 5%.....			13.26
Estimated Cost			278.50

1864–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1163–00..... 260.28

1894–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1163–00..... 260.28

1936–57. Siphon.

Estimated 2,500.00

1939–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1163–00..... 260.28

2003–38. Stop Gate. 30 x 22 x 10.

Lumber R W	at $27 M ft....	11.13	300.51
" O P	" 27 " " ...	2.57	69.39
" Weirboards	" 50 " " ...	2.10	105.00
" Battens	" 30 " " ...	0.60	18.00
Carpenter Work	" 10 " " ...	16.40	164.00
Freight & Haul.	" 9 " " ...	do.	147.60
Earthwork			60.00
Incidental Expenses, etc., 10%.....			86.45
Estimated Cost			950.95
Total forward			$15,592.99

Merced Co.

1453 Main Canal.

Brought Forward $15,592.99

2004–49. Bridge.

Estimated 375.00

2004–49. Waste Gate. 12 x 16 x 6. Drain Canal.

Lumber R W	at $27	M ft....	2.30	$62.10
Carpenter Works	@ 10	" " ...	do.	23.00
Freight & Haul.	@ 9	" " ...	do.	20.70
Earthwork, excavation & back fill.....				30.00
Incidental Expenses, etc., 10%.....				13.58
Estimated Cost				149.38
Total Estimated Cost.....				$16,117.37

2005. End of Earthwork.

Main Canal.

Length of Canal to Head Gate Extension "A" 89,467 Feet 16.94 miles.
Length of Drain Canal 57,900 Feet.
Right of Way 200 Feet in Width.

Sections of Canals.

88,300 ft. Base 30 ft. inside slopes 2½:1.
Side Canal " 10 " " " 3:1 & 2:1.

Merced Co.

1454 Merced County.

Estimated Cost of Main Canal Extension "A."

Stop gates, outlet gates, bridges, etc.....	$41,407.28
Earth excavation 840,694 yds. @ 10¢.....	84,069.40
Telephone line 21.14 miles @ $70.00.....	1,479.80
Engineering and general superintendence, etc., 10%..	12,695.64
Total.....	$139,652.12

Right of way 512.4 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1455 Main Canal Extension "A."

Waste Gate. 120 x 20 x 16. Los Banos.

Lumber R W	at $27 M ft....	15.00	405.00	
" O P	" 27 " " ...	7.80	210.60	
" Weirboards	" 50 " " ...	3.30	165.00	
" Battens	" 30 " " ...	0.70	21.00	
" Piles Sheet	" 27 " " ...	23.70	639.90	
" Round 612 ft.	@25¢ ...	24.80	153.00	
Carpenter Work	at $10 " " ...	75.30	753.00	
Freight & Haul.	" 9 " " ...	do.	677.70	
Drive piles sheet 424 @ $1.00.....			424.00	
" " round 65 " 2.50.....			162.50	
Earthwork, excavation 7 back fill.....			100.00	
Incidental Expenses, etc., 10%.....			371.17	
Estimated Cost				$4,082.87

2016-67. Head Gate. 50 x 22 x 10.

Lumber R W	at $27 M ft....	17.85	481.95	
" O P	" 27 " " ...	4.95	133.65	
" Weirboards	" 50 " " ...	1.45	72.50	
" Battens	" 30 " " ...	1.50	45.00	
" Piles Sheet	@ 27 " " ...	8.40	226.80	
Carpenter Work	at 10 " " ...	34.15	341.50	
Freight & Haul.	at 9 " " ...	do.	307.35	
Driv. piles sheet 200 at $1.00.....			200.00	
Earthwork, excavation 7 back fill.....			67.00	
Incidental Expenses, etc., 10%.....			187.57	
Estimated Cost				$2,063.32

2021-32. Outlet Gate. 5 ft. Opening.

Lumber R W	at $27 M ft....	3.72	100.44	
Carpenter Work	" 10 " " ...	do.	37.20	
Totals forward.....	" " ...	3.72	137.64	$6,146.19

Merced Co.

1456 Main Canal Extension "A."

Brought Forward	M ft....	3.72	$137.64	$6,146.19
Freight & Haul.	at $9 " " ...	do.	33.48	
Earthwork, excavation & back fill.....			25.00	
Incidental Expenses, etc., 10%.....			19.61	
Estimated Cost				215.73

2021–30. Inlet Gate. 5 x 16 x 5.

Lumber R W	at $27	M ft....	1.62	43.74
" O P	" 27	" " ...	0.38	10.26
Carpenter Work	" 10	" " ...	2.00	20.00
Freight & Haul.	" 9	" " ...	do.	18.00
Earthwork, excavation & back fill.....				25.00
Incidental Expenses, etc., 10%.....				11.70
Estimated Cost				128.70

2054–99. Outlet Gate. 3 x 18 x 4.

Estimated 100.00

2076–96. Bridge. 76 x 16.

Lumber R W	at $27	M ft....	1.40	37.80
" O P	" 27	" " ...	6.60	178.20
Carpenter Work	" 5	" " ...	8.00	40.00
Freight & Haul.	" 9	" " ...		72.00
Earthwork				25.00
Incidental Expenses, etc., 5%.....				17.65
Estimated Cost				370.65

2077. Outlet Gate. 5 x 16 x 6.

Lumber R W	at $27	M ft....	2.00	54.00
" O P	" 27	" " ...	.30	8.10
Carpenter Work	" 10	" " ...	2.30	23.00
Freight & Haul.	" 9	" " ...	do.	20.70
Totals forward			$105.80	$6,961.27

Merced Co.

1457 Main Canal Extension "A."

Brought Forward			$105.80	$6,961.27
Earthwork, excavation & back fill.....				25.00
Incidental Expenses, etc., 10%.....				13.08
Estimated Cost				143.88

2102–34. Outlet Gate. 3 x 16 x 7.

Lumber R W	at $27	M ft....	1.65	44.55
Carpenter Work	" 10	" " ...	do.	16.50
Freight & Haul.	" 9	" " ...	do.	14.85
Earthwork, excavation & back fill.....				25.00
Incidental Expenses, etc., 10%.....				10.09
Estimated Cost				110.99

2107–54. Outlet Gate. 5 x 18 x 7.

Lumber R W	at $27 M ft....	2.00	54.00
" O P	" 27 " " ...	.30	8.10
Carpenter Work	" 10 " " ...	2.30	23.00
Freight & Haul.	" 9 " " ...	do.	20.70
Earthwork, excavation, & back fill.....			25.00
Incidental Expenses, etc., 10%.....			13.08
Estimated Cost			143.88

2115–17. Bridge. 62 x 16.

Lumber R W	at $27 M ft....	1.62	45.36
" O P	" 27 " " ...	4.22	113.94
Carpenter Work	" 5 " " ...	5.90	29.50
Freight & Haul.	" 9 " " ...	do.	53.10
Earthwork			25.00
Incidental Expenses, etc., 5%.....			13.34
Estimated Cost			280.24
Total Forward			$7,640.26

Merced Co.

1458 Main Canal Extension "A."

Brought Forward $7,640.26

2117–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32..... 215.73

2120–88. Outlet Culvert. 18 x 3 x 40.

Estimated 100.00

2127–38. Outlet Gate. 5 x 12 x 6.

Same as at Sta. 2021–30..... 128.70

2138–00. Outlet Gate. 4 x 16 x 4.

Same as at Sta. 2102–34..... 110.99

2152–37. Outlet Gate. 5 x 24 x 5.

Same as at Sta. 2077–56..... 143.88

2155–01. Stop Gate. 42 x 24 x 9. Dog Town.

Lumber R W	at $27 M ft....	11.50	$310.50	
" O P	" 27 " " ...	5.00	135.00	
" Weirboards	" 50 " " ...	1.10	55.	
" Battens	" 30 " " ...	1.40	42.00	
Carpenter Work	" 10 " " ...	19.00	190.00	
Freight & Haul.	" 9 " " ...	do.	171.00	
Earthwork, excavation & back fill.....			70.00	
Incidental Expenses, etc., 10%.....			97.35	
Estimated Cost				1,070.85

2189–58. Outlet Gate. 3 x 14 x 3.

Same as at Sta. 2054–99..... 100.00

2193–30. Bridge. 70 x 16.

Lumber R W	at $27 M ft....	2.12	57.24	
" O P	" 27 " " ...	2.54	65.85	
Carpenter Work	" 5 " " ...	4.66	23.30	
Freight & Haul.	" 9 " " ...	do.	41.94	
Totals forward			$188.33	$9,510.41

Merced Co.

1459 5. Main Canal Extension "A."

Brought Forward		$188.33	$9,510.41
Earthwork		25.00	
Incidental Expenses, etc., 5%.....		10.66	
Estimated Cost			223.99

2183–73. Outlet Box. 18 x 2 x 28.

Estimated 100.00

2205–02. Inlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32..... 215.73

2266–34. Bridge Over Outlet Canal No. 4.

Estimated 200.00

2290–14. Waste Gate. 14 x 18 x 7.

Lumber R W	at $27	M ft....	4.20	113.40
" O P	" 27	" " ...	.86	23.22
" Weirboards	@ 50	" " ...	.22	11.00
" Battens	at 30	" " ...	.52	15.60
Carpenter Work	" 10	" " ...	5.60	56.00
Freight & Haul.	" 9	" " ...	do.	50.40
Earthwork, excavation & back fill.....				35.00
Incidental Expenses, etc., 10%.....				30.46
Estimated Cost				335.08

2299–00. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 2102–34..... 110.99

2324–65. Inlet Gate. 6 ft. Opening.

Lumber R W	at $27	M ft....	2.70	72.90
" O P	at 27	" " ...	.40	10.80
Carpenter Work	" 10	" " ...	3.10	31.00
Freight & Haul.	" 9	" " ...	do.	27.90
Earthwork, excavation & back fill.....				30.00
Totals forward			$172.60	$10,696.20

Merced Co.

1460 6. Main Canal Extension "A."

Brought Forward	$172.60	$10,696.20
Incidental Expenses, etc., 10%.....	17.26	
Estimated Cost		189.86

2325–03. Outlet Gate. 3 x 20 x 3.

Same as at Sta. 2054–99..... 100.00

2341–19. Bridge. 66 x 16.

Lumber R W	at $27	M ft....	1.75	47.25
" O P	" 27	" " ...	4.85	130.95
Carpenter Work	" 5	" " ...	6.60	33.00
Freight & Haul.	" 9	" " ...	do.	59.40
Earthwork				25.00
Incidental Expenses, etc., 5%.....				14.78
Estimated Cost				310.38

2360–70. Outlet Gate. 3.5 x 18 x 5.

Same as at Sta. 2102–34				110.99

2377–24. Bridge.

Estimated				375.00

2383–56. Outlet Gate. 3.5 x 14 x 6.

Same as at Sta. 2102–34				110.99

2398–20. Inlet Gate. 10 ft. Opening.

Lumber R W	at $27	M ft....	5.50	148.50
" O P	" 27	" " ...	.20	5.40
Carpenter Work	" 10	" " ...	5.70	57.00
Freight & Haul.	" 10	" " ...	do.	57.00
Earthwork, excavation & back fill				30.00
Incidental Expenses, etc., 10%				29.79
Estimated Cost				327.69
Total forward				$12,221.11

Merced Co.

1461 7. Main Canal Extension "A."

Brought Forward				$12,221.11

2399–43. Outlet Gate. 3 x 16 x 6.

Same as at Sta. 2102–34				110 99

2405–62. Bridge 72 x 16.

Lumber R W	at $27	M ft....	2.26	61.02
" O P	" 27	" " ...	4.90	132.30
Carpenter Work	" 5	" " ...	7.16	35.80
Freight & Haul.	" 10	" " ...	do.	71.60
Earthwork				25.00
Incidental Expenses, etc., 5%				16.28
Estimated Cost				342.00

2406–46. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32				215.73

2432–30. Outlet Gate. 10 ft. Opening.

Same as at Sta. 2398–20				327.69

2433–90. Inlet Gate. 10 ft. Opening.

Same as at Sta. 2398–20		327.69

2453–96. Outlet Gate. 4.5 x 18 x 5.

Same as at Sta. 2077–55		143.88

2459–60. Outlet Gate. 5 x 16 x 6.

Same as at Sta. 2077–56		143.88

2460–15. Stop Gate. 41 x 24 x 8.

Lumber R W	at $27 M ft.	11.30	305.10	
" O P	" 27 " "	4.45	120.15	
" Weirboards	" 50 " "	1.70	85.00	
" Battens	" 30 " "	1.15	34.50	
Carpenter Work	" 10 " "	18.60	186.00	
Freight & Haul.	" 10 " "	do.	186.00	
			$916.75	$13,832.97

Merced Co.

1462 8. Main Canal Extension "A."

Brought Forward	$916.75	$13,832.97
Earthwork, excavation & back fill	75.00	
Incidental Expenses, etc., 10%	99.17	
Estimated Cost		1,090.92

2461–67. Stop Gate. 41 x 20 x 8.

Lumber R W	at $27 M ft.	10.24	276.48	
" O P	" 27 " "	2.06	55.62	
" Weirboards	" 50 " "	.96	48.00	
" Battens	" 30 " "	.94	28.20	
Carpenter Work	" 10 " "	24.20	242.00	
Freight & Haul.	" 10 " "	do.	242.00	
Earthwork, excavation & back fill			75.00	
Incidental Expenses, etc., 10%			96.73	
Estimated Cost				1,064.03

2485–02. Outlet Gate. 10 ft. Opening.

Same as at Sta. 2398–20		327.69

2485–13. Inlet Gate. 10 ft. Opening.

Same as at Sta. 2398–20		327.69

2501–54. Inlet Gate. 10 ft. Opening.

Same as at Sta. 2398–20 ..... 327.69

2501–54. Outlet Gate. 10 ft. Opening.

Same as at Sta. 2398–20 ..... 327.69

2507–00. Outlet Culvert. 3 x 3 x 20.

Estimated 100.00

2578–42. Outlet Gate. 3 x 12 x 6.

Estimated 100.00

2597–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32 ..... 215.73

Total forward $17,714.41

Merced Co.

1463 9. Main Canal Extension "A."

Brought Forward $17,714.41

2608–48. Outlet Box. 3 x 3 x 12. Left Bank.

Estimated 50.00

2609–09. Box 3 x 5 x 6.

Estimated 75.00

2610–12. Stop Gate. 42 x 20 x 9.

Lumber R W	at $27	M ft....	11.95	$322.65
" O P	" 27	" " ...	3.05	82.35
" Weirboards	" 50	" " ...	1.15	57.50
" Battens	" 30	" " ...	.95	28.50
Carpenter Work	" 10	...	17.10	171.00
Freight & Haul.	" 10	" " ...	do.	171.00
Earthwork, excavation & back fill.....				76.00
Incidental Expenses, etc., 10%.....				90.80
Estimated Cost				998.80

2625–85. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32 ..... 215.73

2626–13. Bridge. 68 x 16.

Lumber R W	at $27	M ft....	1.45	39.15
" O P	" 27	" " ...	6.25	168.75
Carpenter Work	" 5	" " ...	7.70	38.50
Freight & Haul.	" 10	" " ...	do.	77.00
Earthwork				25.00
Incidental Expenses, etc., 5%				17.42
Estimated Cost				365.82

2639–82. Outlet Gate. 3.5 x 18 x 4.

Same as at Sta. 2102–34..... 110.99

Total forward $19,530.75

Merced Co.

1464 10. Main Canal Extension "A."

Brought Forward $19,530.75

2659–52. Outlet Gate. 3 x 16 x 5.

Same as at Sta. 2102–34..... 110.99

2669–45. Outlet Culvert. 3 x 3 x 24.

Estimated 100.00

2680–04. Bridge.

Estimated 375.00

2680–46. Bridge over Outlet Canal No. 5.

Estimated 200.00

2684–61. Outlet Box. 1.5 x 2.5 x 16.

Estimated 50.00

2687–09. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32..... 215.73

2689–63. Outlet Culvert. 1.5 x 3 x 16.

Estimated 50.00

2702–63. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 2054–99 ..... 100.00

2704–85. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021-32 ..... 215.73

2724–12. Outlet Box. 1.5 x 3 x 16.

Same as at Sta. 2689–63 ..... 50.00

2728–70. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32 ..... 215.73

2739–32. Outlet Box. Left Bank.

Estimated 75.00

2739–74. Stop Gate. 41 x 24 x 9.

Same as at Sta. 2460–15 ..... 1,090.92

2740–61. Bridge.

Estimated 400.00

Total forward $22,779.85

Merced Co.

1465 11. Main Canal Extension "A."

Brought Forward $22,779.85

2754–73. Outlet Gate. 3 x 16 x 6.

Same as at Sta. 2054–99 ..... 100.00

2767–51. Outlet Gate. 3 x 16 x 5. Left Bank.

Same as at Sta. 2054–99 ..... 100.00

2768–04. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32 ..... 215.73

2783–26. Outlet Gate. 3 x 3 x 20. Left Bank.

Estimated 100.00

2784–63. Outlet Gate. 3 x 3 x 16.

Estimated			50.00

2792–40. Outlet Gate. 14 ft. Opening.

Lumber R W	at $27 M ft....	6.20	$167.40
" O P	" 27 " " ...	.27	7.29
Carpenter Work	" 10 " " ...	6.47	64.70
Freight & Haul.	" 8 " " ...	do.	51.76
Earthwork			35.00
Incidental Expenses, etc., 10%			32.61
Estimated Cost			358.76

2792–90. Inlet Gate. 14 ft. Opening.

Same as at Sta. 2792–40	358.76

2803–88. Outlet Gate. 5 x 10 x 6.

Same as at Sta. 2077–55	143.88

2804–00. Inlet Box. 3 x 3 x 12.

Estimated	50.00

2815–80. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32	215.73

2815–80. Outlet Gate. Left Bank.

Same as at Sta. 2021–32	215.73
Total forward	24,688.44

Merced Co.

1466 12. Main Canal Extension "A."

Brought Forward	$24,688.44

2825–48. Bridge. 66 x 18.

Lumber R W	at $27 M ft....	2.46	$66.42
" O P	" 27 " " ...	5.24	141.48
Carpenter Work	" 5 " " ...	7.70	38.50
Freight & Haul.	" 8 " " ...	do.	61.60
Earthwork			25.00
Incidental Expenses, etc., 5%			16.65
Estimated Cost			349.65

2826–73. Inlet Gate. 14 ft. Opening.

Same as at Sta. 2792–40						358.76

2826–77. Outlet Gate. 14 ft. Opening.

Same as at Sta. 2792–40						358.76

2832–00. Outlet Gate. 5 x 14 x 7.

Same as at Sta. 2077–55						143.88

2846–18. Outlet Gate. 3 x 3 x 14.

Estimated						50.00

2856–53. Stop Gate. 42 x 20 x 8.

Lumber R W	at	$27	M ft.	7.85	211.95	
" O P	"	27	" "	3.05	82.35	
" Weirboards	@	50	" "	.95	47.50	
" Battens	at	30	" "	1.35	40.50	
" Piles Sheet	@	27	" "	9.00	243.00	
Carpenter Work	at	10	" "	22.20	222.00	
Freight & Haul.	"	8	" "	do.	177.60	
Driv. piles 160	"	1			160.00	
Earthwork, excavation & back fill					75.00	
Incidental Expenses, etc., 10%					125.99	
Estimated Cost						1,385.89
Total forward						$27,335.38

Merced Co.

1467 13. Main Canal Extension "A."

Brought Forward						$27,335.38

Waste Gate. 33 x 20 x 9.5. Los Garzas.

Lumber R W	at	$27	M ft.	6.02	$162.54	
" O P	"	27	" "	3.43	92.68	
" Weirboards	@	50	" "	.86	43.00	
" Battens	at	30	" "	.60	18.00	
" Piles	"	27	" "	4.93	133.11	
Carpenter Work	"	10	" "	15.84	158.40	
Freight & Haul.	"	8	" "	do.	126.72	
Driv. piles 88	"	1			88.00	
Earthwork, excavation & back fill					70.00	
Incidental Expenses, etc., 10%					89.24	
Estimated Cost						981.69

2857–05. Stop Gate. 42 x 20 x 9.

Same as at Sta. 2856–53				1,385.89

2876–52. Inlet Gate. 14 ft. Opening.

Same as at Sta. 2792–40				358.76

2876–52. Outlet Gate. 14 ft. Opening.

Same as at Sta. 2792–40				358.76

2681–61. Bridge. 63 x 16.

Lumber R W	at $27	M ft....	5.67	153.09
" O P	" 27	" " ...	5.70	153.90
Carpenter Work	" 5	" " ...	7.37	36.85
Freight & Haul.	" 8	" " ...	do.	58.96
Earthwork				25.00
Incidental Expenses, etc., 5%				21.36
Estimated Cost				448.66

2893–62. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32				215.73
Total forward				$31,084.87

Merced Co.

1468 14. Main Canal Extension "A."

Brought Forward				$31,084.87

2897–45. Outlet Gate. 7½ x 18 x 6.

Lumber R W	at $27	M ft....	4.00	$108.00
" O P	" 27	" " ...	.50	13.50
Carpenter Work	" 10	" " ...	4.50	45.00
Freight & Haul.	" 8	" " ...	do.	36.00
Earthwork, excavation & back fill				30.00
Incidental Expenses, etc., 10%				23.25
Estimated Cost				255.75

2907–44. Outlet Gate. 7½ x 18 x 6.

Same as at Sta. 2897–45				255.75

2908–18. Stop Gate. 40 x 18 x 8.

Lumber R W	at $27	M ft....	10.25	276.75
" O P	" 27	" " ...	.35	9.45
" Weirboards	@ 50	" " ...	.80	40.00
" Battens	at 30	" " ...	.80	24.00
Carpenter Work	" 8	" " ...	12.20	122.00
Freight & Haul.	" 8	" " ...	do.	97.60
Earthwork, excavation & back fill.....				67.00
Incidental Expenses, etc., 10%.....				63.68
Estimated Cost				700.48

2910–41. Bridge.

Estimated 500.00

2911–29. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32..... 215.73

2921–78. Outlet Gate. 3½ x 20 x 6.

Estimated 125.00

Total forward $33,137.58

Merced Co.

1469 15. Main Canal Extension "A."

Brought Forward $33,137.58

2936–45. Bridge. 64 x 16.

Lumber R W	at $27	M ft....	1.67	$45.09
" O P	" 27	" " ...	5.28	142.56
Carpenter Work	" 5	" " ...	6.95	34.75
Freight & Haul.	" 8	" " ...	do.	55.60
Earthwork				25.00
Incidental Expenses, etc., 5%.....				15.15
Estimated Cost				318.15

2937–29. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32..... 215.73

2937–68. Outlet Box. 4 x 4 x 16. Left Bank.

Estimated 50.00

2941–69. Outlet Gate. 5.5 x 14 x 4.

Same as at Sta. 2077–55					143.88

2947–57. Outlet Gate. 3 x 20 x 4.

Same as at Sta. 2102–34					110.99

2967–29. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32					215.73

2967–60. Stop Gate. 42 x 26 x 9.

Lumber R W	at $27	M ft.	10.74	289.98	
" G P	" 27	" "	3.90	105.30	
" Weirboards	@ 50	" "	1.00	50.00	
" Battens	at 30	" "	1.36	40.80	
Carpenter Work	" 10	" "	17.00	170.00	
Freight & Haul	" 8	" "	do.	136.00	
Earthwork, excavation & back fill				67.00	
Incidental Expenses, etc., 10%				85.90	
Estimated Cost					944.98
Total forward					$35,137.04

Merced Co.

1470 16. Main Canal Extension "A."

Brought Forward					$35,137.04

2981–35. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 2102–34					110.99

2994–88. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 2102–34					110.99

3003–15. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32					215.73

3007–26. Outlet Gate. 3.5 x 14 x 5.

Same as at Sta. 2102–34					110.99

3027–47. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32					215.73

3048–55. Outlet Gate. 3.5 x 16 x 4.

Same as at Sta. 2102–34					110.99

3063–39. Outlet Gate. 2.5 x 16 x 5.

Same as at Sta. 2102–34					110.99

3068–33. Outlet Gate. 3.5 x 16 x 4.

Same as at Sta. 2102–34					110.99

3069–29. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32					215.73

3069–74. Stop Gate. 41 x 18 x 9.

Lumber R W	at	$27	M ft....	8.87	$239.49
" O P	"	27	" " ...	2.20	59.40
" Weirboards	@	50	" " ...	1.00	50.00
" Battens	at	30	" " ...	1.13	33.90
Carpenter Work	"	10	" " ...	13.20	132.00
Freight & Haul.	"	8	" " ...	do.	105.60
Earthwork, excavation & back fill.....					67.00
Incidental Expenses, etc., 10%.....					68.73
Estimated Cost					756.12
Total forward					$37,206.29

Merced Co.

1471 17. Main Canal Extension "A."

Brought Forward					$37,206.29

3077–93. Bridge. 66 x 16.

Lumber R W	at	$27	M ft....	1.76	$47.52
" O P	"	27	" " ...	6.50	175.50
Carpenter Work	"	5	" " ...	8.26	41.30
Freight & Haul.	"	8	" " ...	do.	66.08
Earthwork					25.00
Incidental Expenses, etc., 5%.....					17.72
Estimated					373.12

3078–95. Outlet Gate. 5 x 16 x 6.

Same as at Sta. 2077–55					143.88

3086–24. Outlet Gate. 5 x 16 x 5.

Same as at Sta. 2077–55 ..... 143.88

3093–03. Outlet Gate. 5 ft. Opening.

Same as at Sta. 2021–32 ..... 215.73

3105–30. Inlet Gate. 3 x 14 x 5.

Same as at Sta. 2102–34 ..... 110.99

3105–69. Bridge. 68 x 12.

Lumber R W	at $27 M ft. ...	1.00	27.00
" O P	" 27 " " ...	3.20	86.40
Carpenter Work	" 5 " " ...	4.20	21.00
Freight & Haul.	" 8 " " ...	do.	33.60
Earthwork			25.00
Incidental Expenses, etc., 5%			9.65
Estimated Cost			202.65

3118–87. Outlet Gate. 3 x 16 x 5.

Same as at Sta. 2102–34 ..... 110.99

Total Forward $38,507.53

Merced Co.

1472 18. Main Canal Extension "A."

Brought Forward $38,507.53

3121–22. Outlet Gate. 8 x 12 x 5. Left Bank.

Same as at Sta. 2897–45 ..... 255.75

3124–97. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 2054–99 ..... 100.00

3125–11. Outlet Gate. 2 x 3 x 12. Left Bank.

Estimated 50.00

3132–67. County Line, Merced & Stanislaus.

Measuring Gates on Outlet Gates.

14 ft. opening	3 at	$68.00		$204.00
10 " "	3 "	57.00		171.00
8 " "	3 "	50.00		150.00
5 " "	39 "	33.00		1,287.00
3 " "	26 "	23.00		598.00
1½ " "	6 "	14.00		84.00
Total				2,494.00
Total Estimated Cost				$41,407.28

Main Canal Extension "A."

Length of Canal in Merced County 111,600 ft.= 21.14 miles.

Right of way 200 Ft. in Width.

Canal Sections.

34,400 ft. base 30 ft. inside slopes 3:1 cut 5.3 ft.
77,200 " " 30 " " " 2½ " 4.5 "

Merced Co.

1473 Merced County.

Estimated Cost of Parallel Canal.

Stop gate, outlet gate, bridges, etc	$13,918.67
Earth excavation 396,106 yds. @ 10¢	39,610.60
Engineering and general superintendence, etc., 10%	5,352.93
Total	$58,882.20

Right of way.

List of stop and outlet gates, bridges, etc., on following pages.

1474 Parallel Canal.

Station 1122–00. County Line—Merced & Fresno.

1133–50. Outlet Gate. 5 x 18 x 5.

Lumber R W	at $27	M ft.	1.53	$41.31
" O P	" 27	" "	.37	9.99
Carpenter Work	" 10	" "	1.90	19.00
Freight & Haul.	" 10	" "	do.	19.00
Earthwork, excavation & back fill				25.00
Incidental Expenses, etc., 10%				11.43
Estimated Cost				$125.73

1148–13. Outlet Gate. 7 x 12 x 4.

Lumber R W	at $27	M ft....	2.22	59.94
" O P	" 27	" " ...	.28	7.56
Carpenter Work	" 10	" " ...	2.50	25.00
Freight & Haul.	" 10	" " ...	do.	25.00
Earthwork, excavation & back fill.....				30.00
Incidental Expenses, etc., 10%.....				14.75
Estimated Cost				162.25

1163–68. Outlet Gate. 5 x 20 x 5.

Same as at Sta. 1133–50..... 125.73

1226–95. Outlet Gate. 7 x 20 x 5.

Same as at Sta. 1148–13..... 125.73

1228–86. Stop Gate. 40 x 16 x 8.

Lumber R W	at $27	M ft....	7.44	200.88
" O P	" 27	" " ...	.76	20.52
" Weirboards	" 50	" " ...	.84	42.00
" Battens	" 30	" " ...	.96	28.80
Carpenter Work	" 10	" " ...	10.00	100.00
Freight & Haul.	" 10	" " ...	do.	100.00
Totals Forward			$492.20	$539.44

Merced Co.

1475 2. Parallel Canal.

Brought Forward			$492.20	$539.44
Earthwork, excavation & back fill.....				65.00
Incidental Expenses, etc., 10%.....				55.72
Estimated Cost				612.92

1346–22. Waste Gate. 36 x 24 x 12. Camp 13.

Lumber R W	at $27	M ft....	21.72	586.44
" O P	" 27	" " ...	6.34	171.18
" Weirboards	@ 50	" " ...	1.30	65.00
" Battens	at 30	" " ...	1.24	37.20
" Piles	" 27	" " ...	5.80	156.60
Carpenter Work	" 10	" " ...	36.40	364.00
Freight & Haul.	" 10	" " ...	do.	364.00
Driv. Piles 28	" 2.50.....			70.00
Earthwork, excavation & back fill.....				80.00
Incidental Expenses, etc., 10%.....				189.44
Estimated Cost				$2,083.86

1346–93. Stop Gate. 48 x 24 x 6.

Lumber R W	at $27 M ft....	10.26	277.02
" O P	" 27 " " ...	4.64	125.28
" Weirboards	@ 50 " " ...	.72	36.00
" Battens	" 30 " " ...	1.00	30.00
Carpenter Work	" 10 " " ...	16.62	166.20
Freight & Haul.	" 10 " " ...	do.	166.20
Earthwork, excavation & back fill.....			70.00
Incidental Expenses, etc., 10%.....			87.07
Estimated Cost			957.77

1380–77. Outlet Box. 3 x 3 x 12.

Estimated	75.00
Total forward	$4,268.99

Merced Co.

1476 3. Parallel Canal.

Brought Forward	$4,268.99

1445–16. Outlet Box. 3 x 3 x 12.

Estimated	75.00

1463–22. Outlet Gate. 3 x 20 x 4.

Lumber R W	at $27 M ft....	1.40	$37.80
Carpenter Work	" 10 " " ...	do.	14.00
Freight & Haul.	" 10 " " ...	do.	14.00
Earthwork, excavation & back fill.....			20.00
Incidental Expenses, etc., 10%.....			8.58
			94.38

1517–33. Bridge. 72 x 16.

Lumber R W	at $27 M ft....	1.02	27.54
" O P	" 27 " " ...	6.48	174.96
Carpenter Work	" 5 " " ...	7.50	37.50
Freight & Haul.	" 10 " " ...	do.	75.00
Earthwork			25.00
Incidental Expenses, etc., 5%.....			17.00
Estimated Cost			357.00

1521–51. Outlet Gate. 3 x 10 x 5.

Same as at Sta. 1463–22.....	94.38

1583–16. Outlet Gate. 5.5 x 14 x 5.

Estimated				100.00

1635–20. Outlet Gate. 3 x 10 x 5.

Same as at Sta. 1463–22				94.38

1645–15. Bridge. 55 x 16.

Lumber R W	at $27 M ft....	1.42	38.34	
" O P	" 27 " "...	4.88	131.76	
Carpenter Work	" 5 " "...	6.30	31.50	
Totals forward	" "...	6.30	$201.60	$5,084.13

Merced Co.

1477 4. Parallel Canal.

Brought Forward	at M ft....	6.30	$201.60	$5,084.13
Freight & Haul.	at " ".....	do.	63.00	
Earthwork			25.00	
Incidental Expenses, etc. 5%			14.48	
Estimated Cost				304.08

1656–33. Outlet Gate. 5 ft. Opening.

Lumber R W	at $27 M ft....	4.12	111.24	
" O P	" 27 " ".....	.50	13.50	
Carpenter Work	" 10 " ".....	4.62	46.20	
Freight & Haul.	" 10 " ".....	do.	46.20	
Earthwork, excavation & back fill			25.00	
Incidental Expenses, etc. 5%			12.10	
Estimated Cost				254.24

1695–07. Outlet Gate. 3 x 10 x 4.

Same as at Sta. 1463–22				94.38

1713–00. Outlet Gate. 5 x 8 x 5.

Same as at Sta. 1656–33				254.24

1713–90. Bridge. 66 x 16.

Lumber R W	at $27 M ft....	1.95	52.65	
" O P	" 27 " ".....	5.38	145.26	
Carpenter Work	" 5 " ".....	7.33	36.65	
Freight & Haul.	" 10 " ".....	do.	73.30	
Earthwork			25.00	
Incidental Expenses, etc. 5%			16.64	
Estimated Cost				349.50

1717–68. Outlet Gate. 3 x 16 x 5.

Same as at Sta. 1463–22 ..... 94.38

1721–06. Outlet Gate. 3 x 14 x 3.

Same as at Sta. 1463–22 ..... 94.38

Total forward $6,529.33

Merced Co.

1478 5. Parallel Canal.

Brought Forward $6,529.33

1732–28. Outlet Gate. 5 x 16 x 5.

Same as at Sta. 1133–50 ..... 125.73

1761–77. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 1463–22. ..... 94.38

1777–25. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33 ..... 254.24

1778–57. Stop Gate. 36 z 24 x 8.

Lumber, R W	at $27 M ft....	11.84	$309.68
" O P	" 27 " ".....	4.20	113.40
" Weirboards	@ 50 " ".....	.86	43.00
" Battens	at 30 " ".....	.80	24.00
Carpenter Work	" 10 " ".....	17.70	177.00
Freight & Haul.	" 10 " ".....	do.	177.00
Earthwork, excavation & back fill			65.00
Incidental Expenses, etc. 10%			90.90

Estimated Cost 999.98

1800–58. Bridge.

Estimated 400.00

1814–41. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33..... 254.24

1825–93. Outlet Box. 3 x 3 x 16.

Estimated 80.00

1829–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33	254.25

1834–00. Outlet Gate. 3 x 12 x 4.

Same as at Sta. 1463–22	94.38
Total forward	$9,086.52

Merced Co.

1479 6. Parallel Canal.

Brought Forward	$9,086.52

1835–82. Bridge. 64 x 16.

Lumber R W	at $27 M ft.	1.50	$40.50
" O P	" 27 " "	5.20	140.40
Carpenter Work	" 5 " "	6.70	33.50
Freight & Haul.	" 10 " "	do.	67.00
Earthwork			25.00
Incidental Expenses, etc., 5%			15.32
Estimated Cost			321.72

1846–80. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33	254.24

1858–00. Outlet Gate. 6 x 14 x 7.

Lumber R W	at $27 M ft.	2.70	72.90
" O P	" 27 " "	.40	10.80
Carpenter Work	" 10 " "	3.10	31.00
Freight & Haul.	" 10 " "	do.	31.00
Earthwork, excavation & back fill			25.00
Incidental Expenses, etc., 10%			17.07
Estimated Cost			187.77

1863–57. Outlet Gate. 3 x 12 x 5.

Same as at Sta. 1463–22	94.38

1864–00. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33	254.24

1883–00. Outlet Gate. 4 x 30 x 4.

Lumber R W	at $27 M ft....	2.02	54.54	
" O P	" 27 " " ...	.22	5.94	
Carpenter Work	" 10 " " ...	2.24	22.40	
Freight & Haul.		do.	22.40	
Totals forward			105.28	$10,198.87

Merced Co.

1480 7. Parallel Canal.

Brought Forward	$105.28	$10,198.87
Earthwork, excavation & back fill.....	25.00	
Incidental Expenses, etc., 10%.....	13.02	
Estimated Cost		143.30

1893–21. Outlet Gate. 4 ft. Opening.

Same as at Sta. 1656–33..... 254.24

1893–54. Stop Gate. 36 x 24 x 8.

Lumber R W	at $27 M ft....	9.50	256.50	
" O P	" 27 " " ...	3.50	94.50	
" Weirboards	@ 50 " " ...	.85	42.50	
" Battens	at 30 " " ...	.85	25.50	
Carpenter Work	" 10 " " ...	14.70	147.00	
Freight & Haul.	" 10 " " ...	do.	147.00	
Earthwork, excavation & back fill			65.00	
Incidental Expenses, etc., 10%.....			77.80	
Estimated Cost				855.80

1894–61. Bridge.

Estimated 500.00

1938–00. Bridge.

Estimated 500.00

1938–75. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33..... 254.24

1977–99. Outlet Gate. 5 ft. Opening.

Same as at Sta. 1656–33..... 254.24

1994–00. Outlet Box. 18 x 3 x 16.

Estimated	50.00
Total forward	$13,010.69

1995–50. End Parallel Canal.

Merced Co.

1481 8. Parallel Canal.

Brought Forward	$13,010.67

Measuring Gates on Outlet Gates.

8	ft. opening	2	@	$50.00	$100.00	
5	" "	15	"	33.00	495.00	
3	" "	13	"	23.00	299.00	
1½	" "	1	"	14.00	14.00	
	Total					908.00
	Total Estimated Cost					$13,918.67

Parallel Canal.

Length of Canal in Merced County 87,350 ft. 16.54 miles.

Sections of Canal.

25,250 Ft. Base 30 ft. Inside Slopes 3 :1 average cut 3.6 ft.
62,100 " " 30 " " " 2½:1 " " 3.0 "

Merced Co.

1482 Merced County.

Estimated Cost of Dos Palos Main Canal.

Stop and outlet gates, bridges, etc.	$10,646.28
Earth excavation 26,908 yds. at 10¢	2,690.80
Engineering and general superintendence, etc., 10%	1,333.72
Total	$14,670.80

Right of way, 42.26 Acres.

List of stop and outlet gates, bridges, etc., on following pages.

1483 Dos Palos Main Canal.

Station 567–00. County Line.

467–42. Outlet Gate. 6 x 20 x 6. Right.

Lumber R W	at $27	M ft....	3.95	$106.65
" O P	" 27	" " ...	.40	10.80
" Battens	" 30	" " ...	.20	6.00
Carpenter Work	" 10	" " ...	4.55	45.50
Freight & Haul.	" 10	" " ...	do.	45.50
Earthwork, excavation & back fill.....				25.00
Incidental Expenses, etc., 10%.....				23.94
Estimated Cost				$263.39

470–00. Outlet Gate. 4 x 18 x 5. Left.

Lumber R W	at $27	M ft....	3.63	98.01
" O P	" 27	" " ...	.37	9.99
" Battens	" 30	" " ...	.20	6.00
Carpenter Work	" 10	" " ...	4.20	42.00
Freight & Haul.	" 10	" " ...	do.	42.00
Earthwork, excavation & back fill.....				26.00
Incidental Expenses, etc., 10%.....				22.40
Estimated Cost				246.40

479–64. Outlet Gate. 4 x 20 x 5. Right.

Same as at Sta. 470–00..... 246.40

479–64. Outlet Gate. 4 ft. x 20 x 5. Left.

Same as at Sta. 470–00..... 246.40

478–86. Stop Gate. 38 x 20 x 6.

Lumber R W	at $27	M ft....	10.26	277.02	
" O P	" 27	" " ...	.34	9.18	
" Weirboards	@ 50	" " ...	.80	40.00	
" Battens	" 30	" " ...	.80	24.00	
Totals forward			12.20	$350.20	$1,002.59

Merced Co.

1484 Dos Palos Main Canal.

Brought Forward...		M ft....	12.20	$350.20	$1,002.59
Carpenter Work	at $10	" " ...	do.	122.00	
Freight & Haul.	" 10	" " ...	do.	122.00	
Earthwork, excavation & back fill.....				67.00	
Incidental Expenses, etc., 10%.....				66.12	
Estimated Cost					727.32

481–60. Outlet Gate. 1½ x 20 x 4. Right.

Lumber	at $27 M ft....	0.60	16.20
Carpenter Work	" 10 " " ...	do.	6.00
Freight & Haul.	" 9 " " ...	do.	5.40
Earthwork			10.00
Incidental Expenses, etc., 10%.....			3.40
Estimated Cost			41.00

492–85. Bridge. 40 x 16.

Lumber R W	at $27 M ft....	2.13	57.51
" O P	" 27 " " ...	3.22	86.94
Carpenter Work	" 5 " " ...	5.35	26.75
Freight & Haul.	" 10 " " ...	do.	53.50
Earthwork			15.00
Incidental Expenses, etc., 5%.....			11.98
Estimated Cost			251.68

493–06. Outlet Gate. 4 x 18 x 5. Left.

Same as at Sta. 470–00..... 246.40

496–84. Outlet Gate. 4 x 20 x 4. Left.

Lumber	at $27 M ft....	0.80	21.60
Carpenter Work	" 10 " " ...	do.	8.00
Freight & Haul.	" 9 " " ...	do.	7.20
Earthwork			10.00
Incidental Expenses, etc., 10%.....			5.20
Estimated Cost			52.00
Total forward			$2,320.99

Merced Co.

1485 Dos Palos Main Canal.

Brought Forward $2,320.99

499–24. Head Gate. 16 x 20 x 6. Branch No. 3.

Lumber R W	at $27 M ft....	6.70	$180.90
" O P	" 27 " " ...	1.00	27.00
" Weirboards	" 50 " " ...	.11	5.50
" Battens	" 30 " " ...	.50	15.00
Carpenter Work	" 10 " " ...	8.31	83.10
Freight & Haul.	" 10 " " ...	do.	83.10
Earthwork, excavation & back fill.....			37.00
Incidental Expenses, etc., 10%.....			43.16
Estimated Cost			474.76

501–50. Stop Gate. 38 x 20 x 6.

Same as at Sta. 479–96			727.32

501–81. Outlet Gate. 3 x 20 x 4. Left.

Same as at Sta. 496–84			52.00

501–90. Outlet Gate. 2 x 20 x 4. Right.

Lumber R W	at $27 M ft....	0.60	16.20
Carpenter Work	" 10 " " ...	do.	6.00
Freight & Haul.	" 9 " " ...	do.	5.40
Earthwork			10.00
Incidental Expenses, etc., 10%			3.40
Estimated Cost			41.00

505–97. Outlet Gate. 4 x 18 x 5. Left.

Same as at Sta. 470–00			246.40

505–97. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 496–84			52.00

512–37. Outlet Gate. 2 x 20 x 4. Right.

Same as at Sta. 501–90			41.00

514–97. Outlet Gate. 1½ x 20 x 4. Left.

Same as at Sta. 481–60			41.00
Total forward			$3,996.47

Merced Co.

1486 Dos Palos Main Canal.

Brought Forward			$3,996.47

519–05. Outlet Gate. 5 x 20 x 5. Left.

Same as at Sta. 470–00			246.40

519–20. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 496–84			52.00

523–60. Outlet Gate. 1½ x 20 x 4. Left.

Same as at Sta. 481–60			41.00

525–64. Bridge.

Estimated	250.00
528–22. Outlet Gate. 6 x 18 x 6. Right.	
Same as at Sta. 467–42	263.39
531–77. Outlet Gate. 4 x 18 x 5. Left.	
Same as at Sta. 470–00	246.40
538–87. Outlet Gate. 6 x 20 x 6. Left.	
Same as at Sta. 467–42	263.39
540–05. Stop Gate. 38 x 20 x 8.	
Same as at Sta. 479–86	727.32
546–51. Outlet Gate. 2 x 20 x 4. Left.	
Same as at Sta. 501–90	41.00
552–48. Outlet Gate. 5 x 18 x 5. Left.	
Same as at Sta. 470–00	246.40
555–10. Outlet Gate. 1½ x 20 x 4. Left.	
Same as at Sta. 481–60	41.00
359–45. Outlet Gate. 4 x 20 x 6. Left.	
Same as at Sta. 496-84	52.00
561–33. Pipe Box.	
Estimated	600.00
566–15. Outlet Gate. 6 x 16 x 6. Right.	
Same as at Sta. 467–42	263.39
569–31. Outlet Gate. 5 x 16 x 5. Left.	
Same as at Sta. 470–00	246.40
Total forward	$7,576.56

Merced Co.

1487 Dos Palos Main Canal.

Brought Forward				$7,576.56
570–85. Head Gate. 12 x 18 x 5. Branch No. 4.				
Same as at Sta. 538–87				337.79
574–57. Outlet Gate. 6 x 20 x 4.				
Same as at Sta. 467–42				263.39
576–55. Outlet Gate. 5 x 18 x 5. Left.				
Same as at Sta. 470–00				246.40
579–29. Bridge. 60 x 16.				
Lumber R W	at $27	M ft.	1.83	$49.41
" O P	" 27	" "	4.77	128.79
Carpenter Work	" 5	" "	6.60	33.00
Freight & Haul.	" 10	" "	do.	66.00
Earthwork				25.00
Incidental Expenses, etc., 5%				15.11
Estimated Cost				317.31
581–70. Outlet Gate 8 x 16 x 5. Left.				
Lumber R W	at $27	M ft.	4.28	115.56
" O P	" 27	" "	.50	13.50
" Battens	" 30	" "	.22	6.60
Carpenter Work	" 10	" "	5.00	50.00
Freight & Haul.	" 10	" "	do.	50.00
Earthwork, excavation & back fill				28.00
Incidental Expenses, etc. 10%				26.36
Estimated Cost				290.02
584–55. Waste Gate. 50 x 18 x 7.				
Lumber R W	at $27	M ft.	17.11	461.97
" O P	" 27	" "	.72	19.44
" Weirboards	" 50	" "	1.00	50.00
Totals forward		" "	18.83	$531.41 $9,031.47

Merced Co.

1488 Dos Palos Main Canal.

Brought Forward	M ft....	18.83	$531.41	$9,031.47
Lumber Battens	at $30 " " ...	1.00	30.00	
Carpenter Work	" 10 " " ...	19.83	198.30	
Freight & Haul.	" 10 " " ...	do.	198.30	
Earthwork, excavation & back fill			60.00	
Incidental Expenses, etc., 10%.....			101.80	
Estimated Cost				1,119.81

Measuring Gates on Old Outlet Gates.

8— 4 ft. openings at $20.00		160.00	
7— 6 " " " 22.00		157.50	
1— 8 " " " 25.00		25.00	
1— 12 " " " 62.50		62.50	
1— 16 " " " 90.00		90.00	
Total			495.00
Total Estimated Cost			$10,646.28

585–00. End of Canal.

Dos Palos Main Canal.

Length of Canal in Merced Co. 11,800 ft. 2.23 miles.
Right of Way 156 ft. in width.

Canal Sections.

8,800 ft. Base 35 ft. inside slopes 2 :1.
3,000 " " 40 " " " 2½:1

Merced Co.

1489 Merced County.

Estimated Cost of Dos Palos Main Canal Extension.

Stop and Outlet Gates, Bridges, etc.....	$9,251.47
Earth Excavation 68,112 yds. @ 10c.....	6,811.20
Engineering and General Superintendence, etc., 10%..	1,606.26
Total	$17,668.93

Right of way 56.5 acres @ —.

List of Stop and Outlet Gates, Bridges, etc., on following pages.

1490 Dos Palos Main Canal Extension.

Station 582–20. Leaves Main Canal.

586–31. Outlet Gate. 4 x 2 x 12. Left.

Lumber R W	at $27	M ft....	1.00	$27.00
Carpenter Work	" 8	" " ...	do.	8.00
Freight & Haul.	" 10	" " ...	do.	10.00
Earthwork, excavation & back fill.....				10.00
Incidental Expenses, etc., 10%.....				54.94
Estimated Cost				60.50

590–85. Outlet Gate. 4 x 20 x 5. Right.

Lumber	at $27	M ft....	0.80	21.60
Carpenter Work	" 10	" " ...	do.	8.00
Freight & Haul.	" 9	" " ...	do.	7.20
Earthwork				10.00
Incidental Expenses, etc., 10%				5.20
Estimated Cost				52.00

594–93. Stop Gate. 32 x 20 x 5.

Lumber R W	at $27	M ft....	8.85	238.95
" O P	" 27	" " ...	.35	9.45
" Weirboards	" 50	" " ...	.35	17.50
" Battens	" 30	" " ...	.65	19.50
Carpenter Work	" 10	" " ...	10.20	102.00
Freight & Haul.	" 10	" " ...	do.	102.00
Earthwork, excavation & back fill				60.00
Incidental Expenses, etc., 10%				54.94
Estimated Cost				604.34

600–25. Outlet Gate. 2 x 20 x 4. Right.

Lumber	at $27	M ft....	0.60	16.20
Carpenter Work	" 10	" " ...	do.	6.00
Freight & Haul.	" 9	" " ...	do.	5.40
Totals forward			$27.60	$716.84

Merced Co.

1491 Dos Palos Main Canal Extension.

Brought Forward	$27.60	$716.84
Earthwork	10.00	
Incidental Expenses, etc., 10%	3.40	
Estimated Cost		41.00

602–27. Outlet Gate. 2 x 20 x 4. Left.

Same as at Sta. 600–25 ..... 41 00

607–85. Outlet Gate 2 x 20 x 4. Left.

Same as at Sta. 600–25 ..... 41.00

608–65. Pipe Box. 4 x 2 x 100.

Estimated 400.00

611–19. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31 ..... 60.50

613–15. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 590–85 ..... 52.00

618–72. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31 ..... 60.50

627–17. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31 ..... 60.50

627–75. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 590–85 ..... 52.00

634–27. Outlet Gate. 2 x 2 x 12. Left.

Same as at Sta. 602–25 ..... 41.00

637–55. Outlet Gate. 2 x 2 x 12. Right.

Same as at Sta. 602–25 ..... 41.00

643–63. Outlet Gate. 2 x 2 x 12. Left.

Same as at Sta. 602–25 ..... 41.00

646–52. Outlet Gate. 2 x 2 x 12. Right.

Same as at Sta. 602–25 ..... 41.00

650–00. Outlet Gate. 8 x 4 x 16. Right.

Lumber R W	at $27 M ft....	1.60	43.20	
Carpenter Work	" 8 " " ...	do.	12.80	
Totals forward	" " ...	1.60	$56.00	$1,689.34

Merced Co.

149: Dos Palos Main Canal Extension.

Brought Forward	M ft....	1.60	$56.00	$1,689.34
Freight & Haul	at $10 " " ...	do.	16.00	
Earthwork, excavation & back fill.....			10.00	
Incidental Expenses, etc., 10%.....			8.20	
Estimated Cost				90.20

650–62. Outlet Gate. 2 x 2 x 12. Left.

Same as at Sta. 602–25				41.00

851–03. Stop Gate. 40 x 18 x 5.

Lumber R W	at $27 M ft....	10.26	277.02	
" O P	" 27 " " ...	.34	9.18	
" Weirboards	" 50 " " ...	.80	40.00	
" Battens	" 30 " " ...	.80	24.00	
Carpenter Work	" 10 " " ...	12.20	122.00	
Freight & Haul.	" 10 " " ...	do.	122.00	
Earthwork, excavation & back fill			67.00	
Incidental Expenses, etc., 10%.....			66.12	
Estimated Cost				727.32

636–95. Outlet Gate. 2 x 12 x 3. Left.

Same as at Sta. 600–25..... ...				41.00

658–95. Outlet Gate. 2 x 16 x 3. Right.

Same as at Sta. 600–25.....				41.00

659–55. Bridge.

Estimated				200.00

660–98. Outlet Gate. 2 x 2 x 12. Left.

Same as at Sta. 602–25.....				41.00

663–62. Bridge. 32 x 16.

Lumber R W	at $27 M ft....	1.38	37.26	
" O P	" 27 " " ...	2.80	75.60	
Carpenter Work	" 5 " " ...	4.18	20.90	
Freight & Haul.	10 " " ...	do.	41.80	
Totals forward			$175.56	$2,870.86

Merced Co.

1493 Dos Palos Main Canal Extension.

Brought Forward	$175.56	$2,870.86
Earthwork	15.00	
Incidental Expenses, etc., 5%	9.52	
Estimated Cost		200.08

665–60. Outlet Gate. 2 x 2 x 12. Left.

Same as at Sta. 602–25 ..... 41.00

667–68. Outlet Gate. 8 x 3 x 12. Right.

Estimated 75.00

668–26. Outlet Gate. 4 x 3 x 12. Left.

Same as at Sta. 586–31 ..... 60.50

668–98. Stop Gate. 40 x 18 x 5.

Same as at Sta. 651–03 ..... 727.32

675–00. Outlet Gate. 2 x 2 x 12. Right.

Same as at Sta. 602–25 ..... 41.00

676–38. Outlet Gate. 4 x 16 x 4. Right.

Same as at Sta. 590–85 ..... 52.00

678–07. Outlet Gate. 8 x 3 x 12. Left.

Estimated 75.00

678–76. Stop Gate. 30 x 18 x 5.

Same as at Sta. 594–93 ..... 604.34

683–13. Outlet Gate. 8 x 3 x 12. Left.

Estimated 75.00

683–75. Outlet Gate. 4 x 3 x 12. Right.

Same as at Sta. 586–31 ..... 60.50

686–79. Outlet Gate. 8 x 3 x 12. Left.

Estimated 75.00

689–55. Outlet Gate. 8 x 3 x 12. Right.

Estimated 75.00

694–91. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31..... 60.50

Total forward $5,093.10

1494 Dos Palos Main Canal Extension.

Brought Forward $5,093.10

696–00. Outlet Gate. 4 x 2 x 12. Right.

Same as at Sta. 586–31..... 60.50

686–73. Stop Gate. 40 x 16 x 5.

Same as at Sta. 651–03..... 727.32

703–06. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 600–25..... 41.00

706–79. Outlet Gate. 8 x 2 x 12. Right.

Estimated 75.00

709–74. Outlet Gate. 2 x 2 x 12. Left.

Same as at Sta. 602–25..... 41.00

711–13. Outlet Gate. 2 x 2 x 12. Right.

Same as at Sta. 602–25..... 41.00

717–20. Outlet Gate. 2 x 2 x 12. Right.

Same as at Sta. 602–25..... 41.00

719–91. Bridge.

Estimated 200.00

721–00. Outlet Gate. 4 x 3 x 12. Right.

Same as at Sta. 586–31..... 60.50

723–39. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31 ..... 60.50

723–57. Outlet Gate. 6 x 20 x 4. Right.

Estimated 225.00

724–32. Stop Gate. 30 x 18 x 5.

Same as at Sta. 594–93..... 604.34

730–30. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 590–85..... 52.00

733–91. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 590–85..... 52.00

736–60. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31 ..... 60.50

Total forward $7,434.76

Merced Co.

1495 Dos Palos Main Canal Extension.

Brought Forward $7,434.76

738–91. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 590–85..... 52.00

741–03. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31..... 60.50

745–16. Pipe Box. 4 x 2 x 80.

Estimated 400.00

748–22. Outlet Gate. 4 x 20 x 3. Right.

Same as at Sta. 590–85..... 52.00

750–09. Outlet Gate. 4 x 2 x 12. Left.

Same as at Sta. 586–31..... 60.50

752–00. Outlet Gate. 4 x 20 x 4. Left.

Same as at Sta. 590–85..... 52.00

754–14. Stop Gate. 20 x 16 x 4.

Lumber R W	at $27	M ft....	5.85	157.95
" O P	" 27	" " ...	1.60	43.20
" Weirboards	" 50	" " ...	.90	45.00
" Battens	" 30	" " ...	.35	10.50
Carpenter Work	" 10	" " ...	8.70	87.00
Freight & Haul.	" 10	" " ...	do.	87.00
Earthwork, excavation & back fill.....				60.00
Incidental Expenses, etc., 10%.....				49.06
Estimated Cost				539.71

Measuring Gates on Old Outlet Gates.

11–2 ft. openings at $15.00.....	165.00	
13–4 " " " 20.00.....	260.00	
7–8 " " " 25.00.....	175.00	
Total		600.00
Total Estimated Cost.....		$9,251.47

758–20. End of Canal.

Merced Co.

1496 Dos Palos Main Canal Extension.

Length of Canal 17,600 ft., 3.33 miles.
Right of way 140 ft. in width.

Section of Canal.

Base 35 ft. inside slopes 2:1 Average cut 2.6 ft.

1497 Merced County.

Estimated Cost of Dos Palos Branch Canal No. 1.

Stop and outlet gates, bridges, etc.....	$944.75
Earth excavation 61,525 yds. at 8¢.....	4,922.00
Engineering and general superintendence, etc., 10%...	586.67
Total	$6,453.42

Right of way 24.4 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1498 Dos Palos Branch Canal No. 1:

Station 145–00. County Line, Merced & Fresno.

152–01. Bridge. 28 x 16.

Lumber R W	at $27	M ft....	1.80	$48.60
" O P	" 27	" " ...	.50	13.50
Carpenter Work	" 5	" " ...	2.30	11.50
Freight & Haul.	" 9	" " ...	do.	20.70
Earthwork, bank and approaches.....				15.00
Incidental Expenses, etc., 5%.....				5.46
Estimated Cost				114.77

152–33. Outlet Gate. 6 x 12 x 4. Right.

Lumber R W	at $27	M ft....	3.42	92.34
" O P	" 27	" " ...	.38	10.26
Carpenter Work	" 10	" " ...	3.60	36.00
Freight & Haul.	" 9	" " ...	do.	34.20
Earthwork, excavation & back fill.....				30.00
Incidental Expenses, etc., 10%.....				20.28
Estimated Cost				223.08

153–30. Outlet Gate. 2 x 8 x 3. Right.

Estimated 25.00

153–26. Stop Gate. 24 x 16 x 6. Right.

Lumber R W	at $27	M ft....	9.00	243.00
" Weirboards	" 50	" " ...	.40	20.00
" Battens	" 30	" " ...	.60	18.00
Carpenter Work	" 10	" " ...	10.00	100.00
Freight & Haul.	" 9	" " ...	do.	90.00
Earthwork, excavation & back fill.....				58.00
Incidental Expenses, etc., 10%.....				52.90
Estimated Cost				581.90
Total Estimated Cost.....				$944.75

230–00. End of Canal.

Merced Co.

1499 Dos Palos Branch Canal No. 1.

Length of Canal in Merced County 8,500 ft., 1.61 miles.
Right of way 125 ft. in width.

Canal Section.

Base 20 ft. inside slopes 2½:1 cut 2.70 ft.

1500 Merced County.

Estimated Cost of Dos Palos Branch Canal No. 2.

Stop and outlet gates, bridges, etc.	$6,966.10
Earth excavation 63,655 yds. @ 8¢	5,093.20
Engineering and general superintendence, etc., 10%	1,205.93
Total	$13,265.23

Right of way 48.4 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1501 Dos Palos Branch Canal No. 2.

Station 52–80. County Line, Merced & Fresno.

56–24. Outlet Gate. 4 x 16 x 4. Right.

Lumber R W	at $27 M ft.	1.00	$27.00
" O P	" 27 " "	.30	8.10
Carpenter Work	" 10 " "	1.30	13.00
Freight & Haul.	" 9 " "	do.	11.70
Earthwork, excavation & back fill			20.00
Incidental Expenses, etc., 10%			7.98
Estimated Cost			$87.78

56–35. Outlet Gate. 4 x 16 x 4. Left.

Same as at Sta. 56–24 ..... 87.78

58–00. Outlet Gate. 4 x 10 x 14. Right.

Estimated 70.00

58–08. Bridge. 16 x 12.

Lumber R W	at $27 M ft.	1.50	40.50
" O P	" 27 " "	1.50	40.50
Carpenter Work	" 5 " "	3.00	15.00
Freight & Haul.	" 9 " "	do.	27.00
Earthwork			15.00
Incidental Expenses, etc., 5%			6.90
Estimated Cost			144.90

58–40. Outlet Gate. 4 x 10 x 5. Right.

Same as at Sta. 54–24 ..... 87.78

59–03. Outlet Box. 3 x 3 x 5.

Estimated 25.00

59–36. Stop Gate. 16 x 16 x 6.

Same as at Sta. 116–10 ..... 467.94

74–20. Outlet Gate. 4 x 12 x 4. Left.

Same as at Sta. 56–24 ..... 87.78

Total forward $1,058.96

Merced Co.

1502 Dos Palos Branch Canal No. 2.

Brought Forward $1,058.96

74–31. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 56–24 ..... 87.78

74–59. Outlet Gate. 4 x 12 x 4. Left.

Same as at Sta. 56–24 ..... 87.78

74–87. Stop Gate. 16 x 16 x 6.

Same as at Sta. 116–10 ..... 467.94

75–39. Outlet Gate. 5.5 x 12 x 4. Left.

Lumber R W	at $27 M ft....	3.00	$81.00
Carpenter Work	" 10 " " ...	do.	30.00
Freight & Haul.	" 9 " " ...	do.	27.00
Earthwork, excavation & back fill.....			30.00
Incidental Expenses, etc., 10%.....			16.80

Estimated Cost 184.80

81–10. Outlet Gate. 2 x 12 x 3. Left.

Estimated 30.00

86–64. Outlet Gate. 2 x 12 x 3. Left.

Same as at Sta. 81–10..... 30.00

85–52. Bridge. 16 x 22.

Estimated 175.00

88–93. Outlet Gate. 5.5 x 12 x 4. Left.

Same as at Sta. 75–39..... 184.80

90–25. Outlet Box. 2 x 2 x 14. Right.

Estimated 30.00

90–38. Stop Gate. 16 x 16 x 6.

Same as at Sta. 116–10..... 467.94

95–12. Outlet Gate. 2 x 12 x 3. Left.

Same as at Sta. 81–10..... 30.00

108–14. Outlet Gate. 2 x 12 x 3. Left.

Same as at Sta. 81–10..... 30.00

Total forward $2,865.00

Merced Co.

1503 Dos Palos Branch Canal No. 2.

Brought Forward $2,865.00

111–30. Outlet Gate. 2 x 12 x 3. Left.

Same as at Sta. 81–10..... 30.00

114–80. Outlet Box. 2 x 2 x 14. Left.

Estimated 30.00

114–98. Bridge. 18 x 16.

Same as at Sta. 58–08..... 144.90

115–27. Outlet Box. 2 x 2 x 14. Left.

Estimated 25.00

114–37. Outlet Gate. 5.5 x 12 x 4. Left.

Same as at Sta. 75–39..... 184.80

115–37. Outlet Gate. 5.5 x 12 x 4. Right.

Same as at Sta. 75–39					184.80

115–94. Outlet Box. 2 x 2 x 8. Right.

Estimated					20.00

116–10. Stop Gate. 16 x 16 x 6.

Lumber R W	at $27	M ft.	7.20	$194.40	
" Weirboards	" 50	" "	.35	17.50	
" Battens	" 30	" "	.45	13.50	
Carpenter Work	" 10	" "	8.00	80.00	
Freight & Haul.	" 9	" "	do.	72.00	
Earthwork, excavation & back fill				48.00	
Incidental Expenses, etc., 10%				42.54	
Estimated Cost				$467.94	467.94

122–58. Outlet Box. 2 x 2 x 12. Right.

Estimated				25.00	25.

128–23. Outlet Gate. 5.5 x 12 x 5.

Same as at Sta. 75–39				184.80	184.80

141–10. Outlet Gate. 5.5 x 12 x 5. Right.

Same as at Sta. 75–39				184.80	184.80
Total forward					$4,347.04

Merced Co.

1504 Dos Palos Branch Canal No. 2.

Brought Forward					$4,347.04

141–45. Bridge. 16 x 16.

Same as at Sta. 58–08					144.90

142–13. Stop Gate. 16 x 16 x 6.

Same as at Sta. 116–10					467.94

167–54. Outlet Gate. 5.5 x 12 x 5. Right.

Same as at Sta. 75–39					184.80

169–88. Stop Gate. 16 x 16 x 6.

Same as at Sta. 116–10..... 467.94

192–13. Stop Gate. 16 x 16 x 7.

Same as at Sta. 116–10..... 467.94

193–43. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta. 58–40..... 72.60

235–00. Stop Gate. 16 x 12 x 4.

Same as at Sta. 116–10..... 467.94

Total estimated Cost..... .....

238–00. End of canal.

Measuring Gates on Old Outlet Gates.

6–2 ft. Openings	@ $15.00.....	$90.00	
6–4 " "	" 20.00.....	120.00	
6–5.5 ft. "	" 22.50.....	135.00	
Total			345.00
Total Estimated Cost.....			$6,966.10

Dos Palos Branch Canal No. 2.

Length of Canal in Merced Co. 18,520 ft. 3.5 miles.
Right of way 114 ft. in width.

Section of Canal.

Base 20 ft. inside slopes 2½:1 cut 2.7 ft.

Merced Co.

1505 Merced County.

Estimated Cost of Dos Palos Branch Canal No. 3.

Stop and outlet gates, bridges, etc.....	$8,930.53
Earth excavation 58,571 yds. @ 8¢.....	4,685.68
Engineering and general superintendence, etc., 10%..	1,361.62
Total	$14,977.83

Right of way 58.3 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1506 Dos Palos Branch Canal No. 3.

Station 0–00. Equals Sta. 499–24. Main Canal.

6–86. Outlet Gate. 4 x 12 x 5. Left.

Lumber R W	at $27	M ft....	1.00	$27.00
" O P	" 27	" " ...	.30	8.10
" Battens	" 30	" " ...	.20	6.00
Carpenter Work	" 10	" " ...	1.50	15.00
Freight & Haul.	" 10	" " ...	do.	15.00
Incidental Expenses, 10%				9.61
Estimated Cost				105.71

7–07. Outlet Gate. 4 x 20 x 4. Right.

Lumber	at $27	M ft....	0.80	21.60
Carpenter Work	" 10	" " ...	do.	8.00
Freight & Haul.	" 9	" " ...	do.	7.20
Earthwork				10.00
Incidental Expenses, etc., 10%				5.20
Estimated Cost				52.00

7–15. Outlet Gate. 4 x 12 x 5. Right.

Same as at Sta. 6–86 ..... 105.71

11–42. Outlet Gate. 4 x 12 x 5. Right.

Same as at Sta. 6–85 ..... 105.71

15–00. Outlet Gate. 4 x 16 x 4. Right.

Same as at Sta. 6–86..... 105.71

18–77. Outlet Gate. 4 x 12 x 5. Left.

Same as at Sta. 6–86..... 105.71

22–97. Outlet Gate. 4 x 20 x 3.

Same as at Sta. 7–07..... 52.00

25–42. Bridge. 24 x 16.

Lumber R W	at $27	M ft....	1.75	47.25	
" O P	" 27	" " ...	2.35	63.45	
Totals forward		" " ...	4.10	$110.70	$632.55

Merced Co.

1507 Dos Palos Branch Canal No. 3.

Brought Forward	M ft....	4.10	$110.70	$632.55
Carpenter Work	at $5 " " ...	do.	20.50	
Freight & Haul.	" 10 " " ...	do.	41.00	
Earthwork			15.00	
Incidental Expenses, etc., 5%.....			9.36	
Estimated Cost				196.56

25–81. Outlet Gate. 4 x 16 x 4. Right.

Same as at Sta. 6–86.....				105.71

26–09. Stop Gate. 16 x 16 x 7.

Lumber R W	at $27 M ft....	7.05	190.35	
" O P	" 27 " " ...	1.20	32.40	
" Weirboards	" 50 " " ...	.45	17.50	
" Battens	" 30 " " ...	.45	13.50	
Carpenter Work	" 10 " " ...	9.05	90.50	
Freight & Haul.	" 10 " " ...	do.	90.50	
Earthwork, excavation & back fill.....			50.00	
Incidental Expenses, etc., 10%.....			48.47	
Estimated Cost				533.22

39–00. Outlet Gate. 4 x 12 x 5. Right.

Same as at Sta. 6–86.....				105.71

39–00. Outlet Gate. 2 x 2 x 10. Left.

Lumber R W	at $27 M ft....	.40	10.80	
Carpenter Work	" 8 " " ...	do.	3.20	
Freight & Haul.	" 10 " " ...	do.	4.00	
Earthwork, excavation & back fill.....			8.00	
Incidental Expenses, etc., 10%.....			2.60	
Estimated Cost				28.60

41–50. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 7–07.....				52.00
Total forward				$1,654.35

Merced Co.

1508 Dos Palos Branch Canal No. 3.

Brought Forward				$1,654.35
43–50. Outlet Gate. 4 x 16 x 4. Left.				
Same as at Sta. 6–86				105.71
46–50. Outlet Gate. 2 x 6 x 4. Right.				
Lumber	at $27 M ft.	0.60	16.20	
Carpenter Work	" 10 " "	do.	6.00	
Freight & Haul.	" 9 " "	do.	5.40	
Earthwork			10.00	
Incidental Expenses, etc., 10%			3.40	
Estimated Cost				41.00
48–51. Outlet Gate. 2 x 20 x 3. Left.				
Same as at Sta. 46–50				41.00
51–31. Outlet Gate. 4 x 16 x 4. Left.				
Lumber R W	at $27 M ft.	1.25	33.75	
" O P	" 27 " "	.30	8.10	
" Battens	" 30 " "	.20	6.00	
Carpenter Work	" 10 " "	1.75	17.50	
Freight & Haul.	" 10 " "	do.	17.50	
Earthwork, excavation & back fill			26.00	
Incidental Expenses, etc., 10%			10.88	
Estimated Cost				119.73
52–43. Bridge. 24 x 14.				
Same as at Sta. 25–42				196.56
52–70. Outlet Gate. 4 x 16 x 4. Left.				
Same as at Sta. 51–31				119.73
53–61. Outlet Gate. 4 x 10 x 4. Right				
Same as at Sta. 6–86				105.71
53–91. Stop Gate. 16 x 16 x 7.				
Lumber R W	at $27 M ft.	7.07	190.89	
" O P	" 27 " "	.13	3.51	
Totals forward	" "	7.20	$194.40	$2,383.79

1509 Dos Palos Branch Canal No. 3.

Brought Forward	M ft....	7.20	$194.40	$2,383.79
Lumber Weirboards at $50	" " ...	.35	17.50	
" Battens " 30	" " ...	.45	13.50	
Carpenter Work " 10	" " ...	8.00	80.00	
Freight & Haul.		do.	80.00	
Earthwork, excavation & back fill.....			48.00	
Incidental Expenses, etc., 10%.....			43.34	
Estimated Cost				476.74

62–08. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 46–50..... 41.00

67–53. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 7–07..... 52.00

76–41. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 7–07..... 52.00

77–55. Outlet Gate. 4 x 12 x 4. Right.

Lumber R W	at $27 M ft....	.90	24.30	
Carpenter Work	" 10 " " ...	do.	9.00	
Freight & Haul.	" 10 " " ...	do.	9.00	
Earthwork, excavation & back fill.....			20.00	
Incidental Expenses, etc., 10%.....			6.23	
Estimated Cost				68.53

77–55. Outlet Gate. 4 x 12 x 4. Left.

Same as at Sta. 77–55 Right..... 68.53

82–48. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 7–07..... 52.00

87–71. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 7–07..... 52.00

90–56. Bridge. 32 x 16.

Lumber R W	at $27 M ft....	.60	16.20	
" O N P	" 27 " " ...	2.40	64.80	
Totals forward	" " ...	3.00	$81.00	$3,246.59

Merced Co.

1510 Dos Palos Branch Canal No. 3.

Brought Forward		M ft....	3.00	$81.00	$3,246.59
Carpenter Work	at $5	" " ...	do.	15.00	
Freight & Haul.	" 10	" " ...	do.	30.00	
Earthwork				15.00	
Incidental Expenses, etc., 5%				7.05	
Estimated Cost					148.05

96–00. Outlet Gate. 6 x 14 x 5.5. Right.

Lumber R W	at $27	M ft....	3.00	81.00
" O P	" 27	" " ...	.38	10.26
" Battens	" 30	" " ...	.20	6.00
Carpenter Work	" 10	" " ...	3.58	35.80
Freight & Haul.	" 10	" " ...	do.	35.80
Earthwork, excavation & back fill				30.00
Incidental Expenses, etc., 10%				19.98
Estimated Cost				218.74

103–07. Outlet Gate. 6 x 12 x 5.5. Right.

Same as at Sta. 96–00 ..... 218.74

104–56. Bridge. 32 x 16.

Same as at Sta. 90–56 ..... 148.05

109–74. Outlet Gate. 3 x 20 x 3. Right.

Same as at Sta. 7–07 ..... 52.00

111–25. Outlet Gate. 2 x 12 x 3. Left.

Estimated 25.00

113–22. Stop Gate. 16 x 16 x 6.

Same as at Sta. 53–91 ..... 476.74

118–24. Outlet Gate. 6 x 12 x 5. Right.

Same as at Sta. 96–00 ..... 218.74

131–44. Outlet Gate. 8 x 16 x 6. Right.

Lumber R W	at $27	M ft....	4.28	115.56	
" O P	" 27	" " ...	.50	13.50	
Totals forward			4.78	$129.06	$4,752.65

Merced Co.

1511 Dos Palos Branch Canal No. 3.

Brought Forward		M ft....	4.78	$129.06	$4,752.65
Lumber Battens	at $30	" " ...	.22	6.60	
Carpenter Work	" 10	" " ...	5.00	50.00	
Freight & Haul.	" 10	" " ...	do.	50.00	
Earthwork, excavation & back fill.....				30.00	
Incidental Expenses, etc., 10%.....				30.66	
Estimated Cost					296.32

132–11. Stop Gate. 16 x 16 x 6.

Same as at Sta. 53–91..... 476.74

136–24. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 46–50..... 41.00

142–32. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 46–50..... 41.00

145–71. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 46–50..... 41.00

153–81. Outlet Gate. 3 x 20 x 3. Right.

Same as at Sta. 7–07..... 52.00

156–00. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 7–07..... 52.00

157–30. Outlet Gate. 8 x 14 x 5.

Same as at Sta. 131–44..... 296.32

167–72. Outlet Gate. 3 x 16 x 4. Right.

Estimated 35.00

171–00. Outlet Gate. 10 x 16 x 6. Right.

Lumber R W	at $27	M ft....	5.10	137.70	
" O P	" 27	" " ...	.70	18.90	
" Weirboards	" 50	" " ...	.18	9.00	
" Battens	" 30	" " ...	.42	12.60	
Carpenter Work	" 10	" " ...	6.40	64.00	
Freight & Haul.	" 10	" " ...	do.	64.00	
Totals forward				$306.20	$6,084.03

Merced Co.

1512 Dos Palos Branch Canal No. 3.

Brought Forward	306.20	$6,084.03
Earthwork, excavation & back fill	30.00	
Incidental Expenses, etc., 10%	33.62	
Estimated Cost		369.82

171–64. Stop Gate. 16 x 16 x 6.

Same as at Sta. 53–91	476.74

176–39. Pipe Box. 4 x 2 x 70.

Estimated	250.00

178–79. Outlet Gate. 4 x 12 x 4. Right.

Same as at Sta.	105.71

183–91. Bridge. 16 x 16.

Lumber R W	at $27 M ft.	1.52	41.04
" O P	" 27 " "	1.53	41.31
Carpenter Work	" 5 " "	3.05	15.25
Freight & Haul.	" 10 " "	do.	30.50
Earthwork			15.00
Incidental Expenses, etc., 5%			7.15
Estimated Cost			150.25

184–31. Outlet Gate. 5 x 12 x 3. Left.

Estimated	200.00

184–40. Outlet Gate. 6 x 12 x 4. Right

Same as at Sta. 96–00	218.74

185–80. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 46–50	41.00

187–19. Stop Gate. 16 x 16 x 6.

Same as at Sta. 53–91	476.74
Total Est. Cost Forw'd	$8,373.03

219–00. End of Canal.

Merced Co.

1513 Dos Palos Branch Canal No. 3.

Brought Forward		$8,373.03

Measuring Gates on Old Outlet Gates.

9— 2 ft. openings at $15.00	135.00	
11— 4 " " " 20.00	220.00	
4— 6 " " " 22.50	90.00	
1—10 " " " 62.50	62.50	
2— 8 " " " 25.00	50.00	
Total		557.50
Total Estimated Cost		$8,930.53

Dos Palos Branch Canal No. 3.

Length of Canal in Merced County, 21,900 Ft., 4.14 miles.
Right of way 116 feet in width.

Canal Section.

Base 20 ft. inside slope 2½:1 average cut 2.7 ft.
Merced Co.

1514 Merced County.

Estimated Cost of Dos Palos Branch Canal No. 4.

Stop and Outlet Gates, Bridges, etc.	$7,120.05
Earth Excavation 19,344 yds. @ 7¢	1,354.08
Engineering and General Superintendence, etc., 10%	847.54

Right of way 35.9 acres @ —.

List of Stop and Outlet Gates, Bridges, etc., on following pages.

1515 Dos Palos Branch Canal No. 4.

0-00. Sta. 570-85. Dos Palos Main Canal.

3-23. Outlet Gate. 2 x 20 x 3. Right.

Lumber R W	at $27 M ft.	0.60	$16.20
Carpenter Work	" 10 " "	do.	6.00
Freight & Haul.	" 9 " "	do.	5.40
Earthwork			10.00
Incidental Expenses, etc., 10%			3.40
Estimated Cost			41.00

1035

3–83. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

7–76. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

10–28. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

11–79. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

11–90. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

14–19. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

14–00. Stop Gate. 12 x 16 x 5.

Lumber R W	at $27 M ft....	5.92	159.84
" Battens	" 30 " " ...	.40	12.00
" Weirboards	@ 50 " " ...	.18	9.00
Carpenter Work	" 10 " " ...	6.50	65.00
Freight & Haul.	" 10 " " ...	do.	65.00
Earthwork, excavation & back fill.....			20.00
Incidental Expenses, etc., 10%.....			32.96

Estimated Cost 363.80

Total Forward $650.80

Merced Co.

1516 Dos Palos Branch Canal No. 4.

Brought Forward $650.80

20–14. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

20–30. Bridge. 12 x 16.

Lumber R W	at $27 M ft....	.60	$16.20
" O P	" 27 " " ...	1.40	37.80
Carpenter Work	" 5 " " ...	2.00	10.00
Freight & Haul.	" 10 " " ...	do.	20.00
Earthwork			20.00
Incidental Expenses, etc., 5%			5.20
Estimated Cost			109.20

21–04. Outlet Gate. 4 x 20 x 3. Right.

Lumber	at $27 M ft....	0.80	21.60
Carpenter Work	" 10 " " ...	do.	8.00
Freight & Haul.	" 9 " " ...	do.	7.20
Earthwork			10.00
Incidental Expenses, etc., 10%			5.20
Estimated Cost			52.00

21–36. Outlet Gate. 3 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

24–89. Outlet Gate. 4 x 20 x 4. Right.

Same as at Sta. 21–04 ..... 52.00

27–20. Outlet Gate. 3 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

30–50. Bridge.

Same as at Sta. 20–30 ..... 109.20

30–60. Outlet Gate. 4 x 12 x 3. Right.

Lumber	at $27 M ft....	1.30	35.10
Carpenter Work	" 10 " " ...	do.	13.00
Freight & Haul.	" 9 " " ...	do.	11.70
Totals forward		$59.80	$1,096.20

Merced Co.

1517 Dos Palos Branch Canal No. 4.

Brought Forward	$59.80	$1,096.20
Earthwork	20.00	
Incidental Expenses, etc., 10%	8.00	
Estimated Cost		87.80

33–00. Outlet Gate. 4 x 16 x 4. Left.

Same as at Sta. 30–60 ..... 87.80

35–72. Outlet Gate. 3 x 20 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

36–86. Bridge. 20 x 24.

Lumber R W	at $27 M ft....	1.00	27.00
" O P	" 27 " " ...	2.50	67.50
Carpenter Work	" 5 " " ...	3.50	17.50
Freight & Haul.	" 10 " " ...	do.	35.00
Earthwork			20.00
Incidental Expenses, etc., 5%			8.35
Estimated Cost			175.35

37–17. Outlet Gate. 4 x 16 x 4. Right.

Same as at Sta. 30–60 ..... 87.80

37–66. Outlet Gate. 3 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

37–96. Stop Gate. 12 x 16 x 5.5.

Same as at Sta. 14–00 ..... 363.80

44–33. Outlet Gate. 3 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

54–75. Outlet Gate. 2 x 20 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

55–00. Outlet Gate. 5 x 16 x 3. Left.

Estimated 150.00

57–61. Outlet Gate. 2 x 20 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

Total forward $2,253.75

Merced Co.

1518 Dos Palos Branch Canal No. 4.

Brought Forward	$2,253.75
58–90. Outlet Gate. 5 x 16 x 4. Right.	
Estimated	150.00
59–44. Stop Gate. 12 x 6 x 6.	
Same as at Sta. 14–00	363.80
65–90. Bridge. 12 x 24.	
Estimated	130.00
66–24. Outlet Gate. 6 x 20 x 4. Right.	
Estimated	250.00
69–50. Outlet Gate. 2 x 18 x 3. Left.	
Same as at Sta. 3–23	41.00
69–83. Outlet Gate. 2 x 8 x 3. Right.	
Estimated	25.00
70–00. Bridge. 12 x 24.	
Estimated	130.00
72–41. Outlet Gate. 2 x 18 x 2. Left.	
Same as at Sta. 3–23	41.00
75–87. Outlet Gate. 6 x 16 x 4. Right.	
Estimated	200.00
76–01. Outlet Gate. 2 x 18 x 2. Left.	
Same as at Sta. 3–23	41.00
76–61. Stop Gate. 12 x 16 x 5.	
Same as at Sta. 14–00	363.80
81–46. Outlet Gate. 2 x 18 x 2. Left.	
Same as at Sta. 3–23	41.00

84–08. Outlet Gate. 2 x 18 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

88–12. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

Total forward $4,112.35

Merced Co.

1519 Dos Palos Branch Canal No. 4.

Brought Forward $4,112.35

88–25. Outlet. 5 x 16 x 4. Right.

Estimated 150.00

91–45. Outlet Gate. 2 x 18 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

91–85. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

92–04. Stop Gate. 12 x 16 x 5.

Same as at Sta. 14–00 ..... 363.80

95–50. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

96–18. Outlet Gate. 2 x 18 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

97–79. Outlet Gate. 2 x 18 x 3. Right.

Same as at Sta. 3–23 ..... 41.00

102–37. Bridge. 16 x 20.

Estimated 125.00

102–53. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–23 ..... 41.00

102–77. Outlet Gate. 5 x 16 x 4. Right.

Estimated 150.00

105–45. Outlet Gate. 2 x 16 x 3. Left.

Same as at Sta. 3–23..... 41.00

110–09. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–23..... 41.00

110–19. Outlet Gate. 2 x 18 x 3. Right.

Same as at Sta. 3–23..... 41.00

116–95. Outlet Gate. 3 x 18 x 3. Left.

Same as at Sta. 3–23..... 41.00

Total forward $5,311.15

Merced Co.

1520 Dos Palos Branch Canal No. 4.

Brought Forward $5,311.15

117–00. Outlet Gate. 5 x 18 x 4. Right.

Estimated 180.00

121–59. Stop Gate. 12 x 16 x 5.

Same as at Sta. 14–00..... 363.80

122–60. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–93..... 41.00

124–92. Outlet Gate. 2 x 18 x 3. Right.

Same as at Sta. 3–23..... 41.00

125–00. Outlet Gate. 2 x 18 x 3. Left.

Same as at Sta. 3–23..... 41.00

127–22. Outlet Gate. 4 x 18 x 4. Right.

Same as at Sta. 21–04..... 52.00

130–55. Bridge. 12 x 20.

Estimated	120.00

133–00. Outlet Gate. 2 x 10 x 4. Right.

Estimated	25.00

136–00. Stop Gate. 12 x 16 x 5.

Same as at Sta. 14–00	363.80

153–54. Stop Gate. 12 x 16 x 5.

Same as at Sta. 14–00	363.80

156–25. End of Canal.

Measuring Gates on Old Outlet Gates.

3–4 ft. openings at $20.00	60.00	
7–6 " " " 22.50	157.50	217.50
Total		$7,120.05

Merced Co.

1521 Dos Palos Branch Canal No. 4.

Length of Canal in Merced County 15,625 ft. 2.96 miles.

Right of Way 100 feet in width.

Canal Section.

Base 10 feet inside slopes 2:1 Average Cut 2.3 feet.

1522 Merced County.

Estimated Cost of Outside Canal.

Stop and outlet gates, bridges, etc	$29,914.52
Earth excavation 445,225 yds. @ 10¢	44,522.50
" " side canal 62,800 yds. at 7¢	4,396.00
Engineering and general superintendence, etc., 10%	7,883.30
Total	$86,716.32

Right of way 367.3 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1523 Outside Canal.

Station 1024–49. Bridge. 70 x 20.

Lumber R W	at $27	M ft....	1.88	$50.76
" O P	" 27	" " ...	6.42	173.34
Carpenter Work	" 5	" " ...	8.30	41.50
Freight & Haul.	" 12	" " ...	do.	10.00
Earthwork				25.00
Incidental Expenses, etc., 5%				15.03
Estimated Cost				$315.63

1024–49. Bridge. 20 x 8. Side Canal.

Lumber R W	at $27	M ft....	.20	5.40
" O P	" 27	" " ...	.72	19.44
Carpenter Work	" 5	" " ...	.92	4.60
Freight & Haul.	" 12	" " ...	do.	11.04
Earthwork				2.00
Incidental Expenses, etc., 10%				4.24
Estimated Cost				46.72

1105–50. Stop Gate. 10 x 10 x 4. Side Canal.

Lumber R W	at $27	M ft....	2.43	65.61
" O P	" 27	" " ...	.24	6.48
Carpenter Work	" 10	" " ...	2.67	26.70
Freight & Haul.	" 12	" " ...	do.	32.04
Earthwork, excavation & back fill				14.00
Incidental Expenses, etc., 10%				14.48
Estimated Cost				159.31

1106–07. Outlet Gate. 10 x 18 x 6.

Lumber R W	at $27	M ft....	5.12	138.24	
" O P	" 27	" " ...	.72	19.44	
Total forward			5.84	$157.68	$521.66

Merced Co.

1524 2. Outside Canal.

Brought Forward		M ft....	5.84	$157.68	$521.66
Lumber Weirboards @ $50		" " ...	.18	9.00	
" Battens	at 30	" " ...	.40	12.00	
Carpenter Work	" 10	" " ...	6.42	64.20	
Freight & Haul.	" 12	" " ...	do.	77.04	
Earthwork, excavation & back fill				30.00	
Incidental Expenses, etc., 10%				34.99	
Estimated Cost					384.91

1106–07. Bulkhead. 50 feet. Side Canal.

Lumber R W	at $27 M ft....	1.76	47.52
Carpenter Work	" 5 " " ...	do.	8.80
Freight & Haul.	" 12 " " ...		21.12
Earthwork			5.00
Incidental Expenses, etc., 5%.....			4.12
Estimated Cost			86.56

1106–50. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1107–65. Stop Gate. 60 x 18 x 6.

Lumber R W	at $27 M ft....	14.06	379.62
" O P	" 27 " " ...	.44	11.88
" Weirboards	@ 50 " " ...	.76	38.00
" Battens	at 30 " " ...	1.00	30.00
Carpenter Work	" 10 " " ...	16.26	162.60
Freight & Haul.	" 12 " " ...	do.	195.10
Earthwork, excavation & back fill.....			70.00
Incidental Expenses, etc., 10%.....			88.67
Estimated Cost			975.87
Total forward			$2,128.31

Merced Co.

1525 3. Outside Canal.

Brought Forward $2,128.31

1222–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1226–02. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1106–07..... 384.91

1226–02. Bulkhead. 30 feet. Side Canal.

Same as at Sta. 1106–07..... 86.56

1227–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1227–49. Stop Gate. 60 x 18 x 6.

Same as at Sta. 1107–65 ..... 975.87

1296–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1297–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1341–84. Outlet Gate. 6 x 18 x 8.

Same as at Sta. 1106–07 ..... 384.91

1368–89. Bridge. 70 x 20.

Same as at Sta. 1024–49 ..... 315.63

1368–89. Bridge. 20 x 8. Side Canal.

Lumber R W	at $27 M ft....	.20	$5.40
" O P	" 27 " " ...	.72	19.44
Carpenter Work	" 5 " " ...	.92	4.60
Freight & Haul.	" 12 " " ...	do.	11.04
Earthwork			2.00
Incidental Expenses, etc., 10%			4.24
Estimated Cost			46.72
Total forward			$4,960.15

Merced Co.

1526 4. Outside Canal.

Brought Forward $4,960.15

1392–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1392–76. Outlet Gate. 10 x 22 x 6.

Lumber R W	at $27 M ft....	5.63	$152.01
" O P	" 27 " " ...	.72	19.44
" Weirboards	@ 50 " " ...	.13	9.00
" Battens	at 30 " " ...	.50	15.00
Carpenter Work	" 10 " " ...	7.03	70.30
Freight & Haul.	" 12 " " ...	do.	84.36
Earthwork, excavation & back fill.....			30.00
Incidental Expenses, etc., 10%			38.01
Estimated Cost			418.12

1392–76. Bulkhead. 50 ft. Side Canal.

Same as at Sta. 1106–07 ..... 86.56

1394–32. Stop Gate. 60 x 18 x 6.

Same as at Sta. 1107–65 ..... 975.87

1408–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1442–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1459–75. Outlet Gate. 10 x 18 x 6. Left Bank.

Same as at Sta. 1106–07 ..... 384.91

1475–50. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1106–07 ..... 384.91

1482–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1490–97. Bridge. 80 x 24.

Lumber R W	at $27 M ft....	3.05	82.35	
Totals forward	" " ...	3.05	82.05	$7,847.76

Merced Co.

1527 5. Outside Canal.

Brought Forward	M ft....	3.05	$82.35	$7,847.76
Lumber O P	at $27 " " ...	9.38	253.26	
Carpenter Work	" 5 " " ...	12.43	62.15	
Freight & Haul.	" 15 " " ...	do.	149.16	
Earthwork			25.00	
Incidental Expenses, etc., 5%			28.59	
Estimated Cost				600.51

1490–97. Bridge. 20 x 8. Side Canal.

Same as at Sta. 1368–89 ..... 46.72

1521–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1532–30. Outlet Gate. 10 x 18 x 6. Left.

Same as at Sta. 1106–07 ..... 384.91

1532–58. Outlet Gate. 10 x 22 x 6.

Same as at Sta. 1392–76 ..... 418.12

1532–58. Bulkhead. 50 feet. Side Canal.

Same as at Sta. 1106–07 ..... 86.56

1534–23. Stop Gate. 60 x 16 x 6.

Same as at Sta. 1107–65 ..... 975.87

1543–50. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1552–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1569–82. Bridge. 80 x 24.

Lumber R W	at $27 M ft....	3.05	82.35	
" O P	" 27 " " ...	9.38	253.26	
Carpenter Work	" 5 " " ...	12.43	62.15	
Totals forward	" " ...	12.43	$397.76	$10,838.38

Merced Co.

1528 6. Outside Canal.

Brought forward	M ft....	12.43	$397.76	$10,838.38
Freight & Haul	at $12 " " ...	do.	149.16	
Earthwork			25.00	
Incidental Expenses, etc., 5%			28.59	
Estimated Cost				600.51

1575–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1607–61. Bridge. 100 x 24.

Lumber R W	at $27	M ft....	3.90	105.30
" O P	" 27	" " ...	11.60	313.20
Carpenter Work	" 5	" " ...	15.50	77.50
Freight & Haul.	" 12	" " ...	do.	186.00
Earthwork				30.00
Incidental Expenses, etc., 5%				35.60
Estimated Cost				747.60

1607–61. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1607–61. Bridge. 20 x 8. Side Canal.

Same as at Sta. 1024–49..... 46.72

1615–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1628–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1659–29. Outlet Gate. 10 x 22 x 6.

Same as at Sta. 1392–76..... 418.12

1659–29. Bulkhead. 60. Side Canal.

Same as at Sta. 1106–07..... 86.56

Total forward $13,375.13

Merced Co.

1529 7. Outside Canal.

Brought Forward $13,375.13

1659–20. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1660–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50..... 159.31

1660–53. Stop Gate. 60 x 18 x 6.

Same as at Sta. 1107–65 ..... 975.87

1701–64. Outlet Gate. 10 x 18 x 5.

Same as at Sta. 1106–07 ..... 384.91

1729–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1729–56. Bridge. 100 x 24.

Same as at Sta. 1607–61 ..... 747.60

1729–56. Bridge. 20 x 8. Side Canal.

Same as at Sta. 1024–49 ..... 46.72

1744–72. Outlet Gate. 10 x 22 x 6.

Lumber R W	at $27 M ft....	5.63	152.01	
" O P	" 27 " " ...	.72	19.44	
" Weirboards	@ 50 " " ...	.18	9.00	
" Battens	at 30 " " ...	.50	15.00	
Carpenter Work	" 10 " " ...	7.03	70.30	
Freight & Haul.	" 10 " " ...	do.	70.30	
Earthwork, excavation & back fill.....			30.00	
Incidental Expenses, etc., 10%.....			36.60	
				402.65

1780–00. Stop Gate. 10 x 10 x 4. Side Canal.

Same as at Sta. 1105–50 ..... 159.31

1794–20. Outlet Gate. 12 x 22 x 6.

Same as at Sta. 1744–72 ..... 402.65

Total forward $16,972.77

Merced Co.

1530 8. Outside Canal.

Brought Forward					$16,972.77
1795–30. Stop Gate. 60 x 18 x 6.					
Lumber R W	at $27	M ft...	14.76	$389.52	
" O P	" 27	" " ...	2.32	62.64	
" Weirboards	@ 50	" " ...	.96	48.00	
" Battens	at 30	" " ...	1.00	30.00	
Carpenter Work	" 10	" " ...	19.04	190.40	
Freight & Haul.	" 10	" " ...	do.	190.40	
Earthwork, excavation & back fill.....				70.00	
Incidental Expenses, etc., 10%.....				98.09	
Estimated Cost					1,079.05
1799–28. Waste Gate (Upper), Los Banos Creek.					
Lumber R W	at $27	M ft....	40.20	$1,085.40	
" O P	" 27	" " ...	1.60	43.20	
" Weirboards	@ 50	" " ...	4.50	225.00	
" Battens	at 30	" " ...	1.20	36.00	
" Piles O P	@ 27	" " ...	27.60	745.20	
Carpenter Work	at 10	" " ...	75.10	751.00	
Freight & Haul.	" 10	" " ...	do.	751.00	
Pile drive. Sheet 507 @ 1.00.....				507.00	
Earthwork, excavation & back fill.....				105.00	
Incidental expenses, etc., 10%.....				424.88	
Estimated Cost					4,673.68
1799–28. Waste Gate (Lower), Los Banos Creek.					
Lumber R W	at $27	M ft....	47.60	$1,285.20	
" O P.	" 27	" " ...	6.50	175.50	
" Weirboards	@ 50	" " ...	4.50	225.00	
Totals forward		" " ...	58.60	$1,685.70	$22,725.50

Merced Co.

1531 9. Outside Canal.

Brought Forward		M ft....	58.60	$1,685.70	$22,725.50
Lumber Battens	at $30	" " ...	1.70	51.00	
" Piles	" 27	" " ...	31.50	850.50	
Carpenter Work	" 10	" " ...	91.80	918.00	
Freight & Haul.	" 10	" " ...	do.	918.00	
Pile Driv. Sheet 580 @	1	" " ...	do.	580.00	
Earthwork, excavation & back fill.....				125.00	
Incidental Expenses, etc., 10%.....				512.82	
Estimated Cost					5,641.02
25 Small Outlet Gates on Side Canal, estimated @ $35.					875.00

Measuring Gates on Outlet Gates.

12 ft. opening	1 @ $63.00	63.00	
10 " "	10 " 57.00	570.00	
6 " "	1 " 40.00	40.00	
Total			673.00
Total Estimated Cost			$29.914.52

Outside Canal.

Length of Canal in Merced County 80,000 ft. = 15.15 miles.
Right of Way 200 feet in width.

Section of Canal.

Base 50 ft. inside slopes 3:1 cuts 2.5 to 4.0 ft.

Side Canal.

78,500 ft. in Merced County Base 10 ft. Average Cut 1.6 ft.

Merced Co.

1532 Merced County.

Estimated Cost of Outside Canal Extension.

Stop and Outlet Gates, Bridges, etc.	$22,360.48
Earth Excavation, 456,655 yds. at 10 @	45,665.50
Engineering and General Superintendence, etc., 10% ..	6,802.59
Total	74,828.57

Right of Way 360.4 acres @ —.

List of Stop and Outlet Gates, Bridges, etc., on following pages.

1533 Outside Canal Extension.

1800–31. Stop Gate. 50 x 16 x 8. Head of Extension.

Lumber R W	at $27	M ft....	13.10	$353.70
" O P	" 27	" " ...	.70	18.90
" Weirboards	@ 50	" " ...	1.00	50.00
" Battens	" 30	" " ...	1.00	30.00
" O P	@ 27	" " ...	3.20	86.40
Carpenter Work	" 10	" " ...	19.00	190.00
Freight & Haul.	" 10	" " ...	do.	190.00
Pile Driv. Sheet 80 @ 1				80.00
Earthwork, excavation & back fill.....				67.00
Incidental Expenses, etc., 10%.....				106.60
Estimated Cost				1,172.60

1803–06. Bridge. 70 x 20.

Lumber R W	at $27 M ft....	1.88	50.76
" O P	" 27 " " ...	6.42	173.34
Carpenter Work	" 5 " " ...	8.30	41.50
Freight & Haul.	" 10 " " ...	do.	83.00
Earthwork			25.00
Incidental Expenses, etc., 5%			18.68
Estimated Cost			392.28

1823–05. Outlet Gate. 10 x 18 x 5.

Lumber R W	at $27 M ft....	5.13	138.51
" O P	" 27 " " ...	.72	19.44
" Weirboards	@ 50 " " ...	.18	9.00
" Battens	at 30 " " ...	.40	12.00
Carpenter Work	" 10 " " ...	6.43	64.30
Freight & Haul.	" 10 " " ...	do.	64.30
Totals forward		$307.55	$1,564.88

1534 2. Outside Canal Extension.

Brought Forward	$307.55	$1,564.88
Earthwork, excavation & back fill	30.00	
Incidental Expenses, etc., 10%	33.75	
Estimated Cost		371.30

1852–09. Bridge. 100 x 24.

Lumber R W	at $27 M ft....	3.90	105.30
" O P	" 27 " " ...	11.60	313.20
Carpenter Work	" 5 " " ...	15.50	77.50
Freight & Haul.	" 10 " " ...	do.	155.00
Earthwork			30.00
Incidental Expenses, etc. 5%			34.05
Estimated Cost			715.05

1852–65. Outlet Gate. 10 x 18 x 7.

Same as at Sta. 1823–05 ..... 371.30

1899–92. Bridge. 80 x 24.

Lumber R W	" 27 M ft....	3.05	82.35
" O P	" 27 " " ...	9.40	253.80
Carpenter Work	" 5 " " ...	12.45	62.25
Freight & Haul.	" 10 " " ...	do.	124.50
Earthwork			25.00
Incidental Expenses, etc., 5%			27.39
Estimated Cost			575.29

1915–73. Outlet Gate. 10 x 18 x 7.

Same as at Sta. 1823–05 ..... 371.30

1916–23. Bridge. 100 x 24.

Same as at Sta. 1852–09 ..... 715.05

Total forward $4,684.17

1535 3. Outside Canal Extension.

Brought Forward $4,684.17

1955–22. Outlet Gate. 10 x 18 x 7.

Same as at Sta. 1823–05 ..... 371 30

1977–61. Bridge. 100 x 24.

Same as at Sta. 1852–09 ..... 715.05

2059–84. Head Gate. 20 x 24 x 12. Outlet Canal No. 4.

Lumber R W	at $27	M ft....	15.90	429.30
" O P	" 27	" " ...	1.66	44.82
" Weirboards	@ 50	" " ...	.44	22.00
" Battens	" 30	" " ...	1.00	30.00
Carpenter Work	" 10	" " ...	19.00	190.00
Freight & Haul.	" 10	" " ...	do.	190.00
Earthwork, excavation & back fill.....				71.00
Incidental Expenses, etc., 10%.....				97.71
Estimated Cost				1,074.83

2065–52. Bridge. 70 x 20.

Same as at Sta. 1803–06 ..... 392.28

2066–63. Outlet Gate. 10 x 18 x 8.

Same as at Sta. 1823–05 ..... 371.30

2969–71. Stop Gate. 40 x 14 x 7.

Lumber R W	at $27	M ft....	10.26	277.02
" O P	" 27	" " ...	.34	9.18
" Weirboards	@ 50	" " ...	.80	40.00
" Battens	at 30	" " ...	.80	24.00
Carpenter Work	" 10	" " ...	12.20	122.00
Freight & Haul.	" 10	" " ...	do.	122.00
Earthwork, excavation & back fill.....				67.00
Total forward				$661.20 $7,608.93

1536 4. Outside Canal Extension.

Brought Forward		$661.20	$7,608.92
Incidental Expenses, etc., 10%		66.12	
			727.32

2137–18. Outside Gate. 10 x 18 x 6.

Same as at Sta. 1823–05			371.30

2155–84. Bridge. 60 x 16.

Lumber R W	at $27 M ft.	1.58	42.66
" O P	" 27 " "	4.82	130.14
Carpenter Work	" 5 " "	6.40	32.00
Freight & Haul.	" 10 " "	do.	64.00
Earthwork			25.00
Incidental Expenses, etc., 5%			14.69
Estimated Cost			308.49

2176–30. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05	371.30

2211–50. Outlet Gate. 5 x 16 x 6.

Estimated	250 00

2236–76. Bridge. 80 x 24.

Same as at Sta. 1899–92	575.29

2242–61. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05	371.30

2259–89. Stop Gate. 40 x 14 x 7.

Same as at Sta. 2069–71	727.32

2262–79. Waste Gate. 60 x 20 x 10. San Luis.

Lumber R W	at $27 M ft.	15.90	429.30	
" O P	" 27 " "	1.66	44.82	
" Weirboards @ 50	" "	.44	22.00	
Totals forward	" "	18.04	$496.12	$11,311.25

1537 5. Outside Canal Extension.

Brought Forward	M Ft...	18.04	$496.12	$11,311.25
Lumber Battens	at $30 " " ...	1.00	30.00	
Carpenter Work	" 10 " " ...	19.04	190.40	
Freight & Haul.	" 10 " " ...	do.	190.40	
Earthwork, excavation & back fill.....			71.00	
Incidental Expenses, etc., 10%.....			97.79	
Estimated Cost				1,075.71

2270–20. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–03..... 371.30

2271–07. Stop Gate. 40 x 14 x 7.

Same as at Sta. 2069–71..... 727.32

2338–57. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05..... 371.30

2351–91. Bridge. 100 x 24.

Same as at Sta. 1852–09..... 715.05

2362–44. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05..... 371.30

2386–25. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05..... 371.30

2386–98. Stop Gate. 40 x 14 x 7.

Same as at Sta. 2069–71..... 727.32

2408–13. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05..... 371.30

2451–47. Outlet Gate. 10 x 18 x 6.

Same as at Sta. 1823–05..... 371.30

2461–50. Bridge. 80 x 24.

Same as at Sta. 1899–92..... 575.29

Total forward $17,359.74

1538 6. Outside Canal Extension.

Brought Forward						$17,359.74
2491–28. Outlet Gate. 10 x 18 x 6.						
Same as at Sta. 1823–05.....						371.30
2522–26. Outlet Gate. 10 x 18 x 6.						
Same as at Sta. 1823–05.....						371.30
2522–95. Bridge. 80 x 24.						
Same as at Sta. 1899–92						575.29
2523–86. Head Gate. 20 x 18 x 8. Outlet Canal No. 5.						
Lumber R W	at	$27	M ft....	11.73	$316.71	
" O P	"	27	" " ...	1.53	41.31	
" Weirboards	@	50	" " ...	.44	22.00	
" Battens	at	30	" " ...	.70	21.00	
Carpenter Work	"	10	" " ...	14.40	144.00	
Freight & Haul.	"	10	" " ...	do.	144.00	
Earthwork, excavation & back fill					63.00	
Incidental Expenses, etc., 10%.....					75.20	
Estimated Cost						827.22
2536–04. Outlet Gate. 10 x 18 x 6.						
Same as at Sta. 1823–05.....						371.30
2537–45. Stop Gate. 40 x 14 x 7.						
Same as at Sta. 2069–71						727.32
2581–31. Stop Gate. 20 x 14 x 7.						
Lumber R W	at	$27	M ft....	7.80	210.60	
" Weirboards	@	50	" " ...	.35	17.50	
" Battens	"	30	" " ...	.55	16.50	
Carpenter Work	"	10	" " ...	8.70	87.00	
Freight & Haul.	"	10	" " ...	do.	87.00	
Totals forward					$418.60	$20,603.47

1539 7. Outside Canal Extension.

Brought Forward	$418.60	$20,603.47
Earthwork, excavation & back fill.....	60.50	
Incidental Expenses, etc., 10%.....	47.91	
Estimated Cost		527.01

2585. End of Canal.

Measuring Gates on Outlet Gates.

10 ft. Opening	21 @ $57.00	1,197.00	
5 " "	1 " 33.00	33.00	
Total			1,230.00
Total Estimated Cost			$22,360.48

Outside Canal Extension.

Length of Canal in Merced County 78,500 Feet = 14.86 Miles.
Right of Way 200 Ft. in Width.

Sections of Canal.

26,000 ft. Base 40 ft. inside slopes 3:1 various cuts.
52,500 " " 30 " " " 3:1 " "

1540 Estimated Cost of Outlet Canal No. 4.

Drops	$2,587.20
Earth Excavation 6,118 yds. @ 8¢	489.44
Engineering, General Superintendence, etc., 10%	307.66
	$3,384.30

Right of Way.

List of Head and Stop Gates on following pages.

1541 Outlet Canal No. 4.

Drop 20 x 20 x 9.

Lumber R W	at $27 M ft.	10.00	$270.00
" Weirboards	" 50 " "	.55	27.50
" Battens	" 30 " "	.45	13.50
Carpenter Work	" 10 " "	11.00	110.00
Earthwork, excavation & back fill			57.00
Incidental Expenses, etc., 10%			58.50
Estimated Cost			646 80
3 Drops, same as above @ $646.80			1,940.40
Total Estimated Cost			$2,587.20

Outlet Canal No. 4.

Length of Canal 1,900 feet. 0.35 miles.

Section.

Base 20 ft. inside slopes 3:1 average cut 3 feet.

1542 Estimated Cost of Outlet Canal No. 5.

Drops	$5,256.02
Earth Excavation 23,200 yds. @ 8¢	1,856.00
Engineering and General Superintendence, etc., 10%	711.20
Total	$7,823.22

Right of Way.
List of Head and Stop Gates on following page.

1543 Outlet Canal No. 5.

Drop 20 x 18 x 8.

Lumber R W	at $27 M ft.	12.00	$324.00
" Weirboards	" 50 " "	.44	22.00
" Battens	" 30 " "	.76	22.80
Carpenter Work	" 10 " "	13.20	132.00
Freight & Haul.	" 9 " "	do.	118.80
Earthwork, excavation & back fill			63.00
Incidental Expenses, etc., 10%			68.26
Estimated Cost			750.86
6 Drops, same as above, at $750.86			4,505.16
Total Estimated Cost			$5,256.02

Outlet Canal No. 5.

Length of Canal 7,200 ft. 1.36 miles.

Section of Canal.

Base 20 ft. inside slopes 3:1 Average cut 3.0 ft.

1544 *Estimated Cost of the Works of the San Joaquin and Kings River Canal and Irrigation Company in Stanislaus County.*

Main Canal Extension A	Page 1	$40,363.92
" " " B	" 10	29,097.50
Christimba Branch Canal	" 15	3,321.00
Canal Station, Improvements		1,500.00
" " Horse, Cart and Wagon		175.00
Total		$74,457.42

San Francisco, Cal., December 24th, 1906.

R. H. GOODWIN,
Consulting Engineer.

1545 Stanislaus County.

Estimated Cost of Main Canal Extension A.

Stop and Outlet Gate, Bridges, etc.	$12,902.98
Earth Excavation, 232.504 yds. @ 10¢	23,250.40
Telephone Line 7.73 miles @ $70	541.10
Engineering, General Superintendence, etc., 10%	3,669.44
Total	$40,363.92

Right of Way 187.3 acres @ —.
List of Stop and Outlet Gates, Bridges, etc., on following pages:

1546 Main Canal Extension "A."

Station 3132–67. County Line Merced and Stanislaus.

3135–62. Bridge. 60 x 16.

Lumber R W	at $27	M ft.	1.56	$42.12
" O P	" 27	" "	5.20	140.40
Carpenter Work	@ 5	" "	6.76	33.80
Freight & Haul.	" 8	" "	do.	54.08
Earthwork				25.00
Incidental Expenses, etc., 5%				14.77
Estimated Cost				310.17

3135–78. Outlet Gate. 3.5 x 16 x 4.

Lumber R W	at $27	M ft.	1.65	$44.55
Carpenter Work	" 10	" "	do.	16.50
Freight & Haul.	" 8	" "	do.	13.20
Earthwork, excavation & back fill				25.00
Incidental Expenses, etc., 10%				9.92
Estimated Cost				109.17

5144–28. Outlet Gate. 3 x 12 x 4.

Same as at Sta. 3135–78 ..... 109.17

3155–09. Outlet Gate. 5 ft. Opening.

Lumber R W	at $27	M ft.	3.72	$100.44
" O P	" 27	" "	0.26	7.02
Carpenter Work	" 10	" "	3.98	39.80
Freight & Haul.	" 8	" "	do.	31.84
Earthwork, excavation & back fill				25.00
Incidental Expenses, etc., 10%				20.41
Estimated Cost				224.51

3155–62. Bridge. 65 x 24.

Lumber R W	at $27	M ft.... 2.54	68.58	
Totals forward		M ft.... 2.54	$68.58	$753.02

Stanislaus Co.

1547 Main Canal Extension "A."

Brought Forward		M ft.... 2.54	$68.58	$753.02
Lumber O P	at $27	" " ... 6.68	185.22	
Carpenter Work	" 5	" " ... 9.40	47.00	
Freight & Haul	" 8	" " ... do.	75.20	
Earthwork			25.00	
Incidental Expenses, etc., 5%			20.05	
Estimate Cost				421.05

3158–40. Outlet Gates. 3 x 16 x 4.

Lumber R W	at $27	M ft.... 1.43	38.61	
Carpenter Work	" 10	" " ... do.	14.30	
Freight & Haul.	" 8	" " ... do.	11.44	
Earthwork, excavation & back fill			25.00	
Incidental Expenses, etc., 10%			8.93	
Estimate Cost				98.28

3170–30. Outlet Gate. 3 x 16 x 4.

Same as at Sta. 3158–40.....	98.28

3178–60. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09.....	224.51

3179–17. Stop Gate. 42 x 26 x 9.

Lumber R W	at $27	M ft.... 10.74	289.98	
" O P	" 27	" " ... 3.90	105.30	
" Weirboards	@ 50	" " ... 1.00	50.00	
" Battens	at 30	" " ... 1.36	40.80	
Carpenter Work	" 10	" " ... 17.00	170.00	
Freight & Haul.	" 8	" " ... do.	136.00	
Earthwork, excavation & back fill.....			60.00	
Incidental Expenses, etc., 10%			85.20	
Estimated Cost				937.28
Total forward				$2,532.42

Stanislaus Co.

1548 Main Canal Extension "A."

Brought Forward				$2,532.42
3191–61. Outlet Gate. 5 ft. Opening.				
Same as at Sta. 3155–09				224.51
3191–98. Inlet Gate. 5 ft. Opening.				
Same as at Sta. 3155–09				224.51
3202–31. Outlet Gate. 3.5 x 16 x 5.				
Same as at Sta. 3135–78				109.17
3218–06. Outlet Box. 2 x 2 x 16.				
Estimated				50.00
3223–67. Outlet Gate. 2.5 x 16 x 3.				
Same as at Sta. 3158–40				98.28
3237–08. Outlet Gate. 5 ft. Opening.				
Same as at Sta. 3155–09				224.51
3251–89. Bridge. 66 x 16.				
Lumber R W	at $27 M ft.	1.60	$43.20	
" O P	" 27 " "	6.60	178.20	
Carpenter Work	" 5 " "	8.20	41.00	
Freight & Haul.	" 8 " "	do.	41.00	
Earthwork			25.00	
Incidental Expenses, etc., 5%			16.42	
Estimated Cost				344.82
3252–43. Outlet Gate. 3 x 16 x 5.				
Same as at Sta. 3158–40				98.28
3253–69. Bridge. 66 x 16.				
Lumber R W	at $27 M ft.	2.23	60.21	
" O P	" 27 " "	5.90	159.30	
Carpenter Work	" 5 " "	8.13	40.65	
Freight & Haul.	" 8 " "	do.	65.04	
Totals forward			$325.20	$3,906.50

1549 Main Canal Extension "A."

Brought Forward		$325.20	$3,906.50
Earthwork		25.00	
Incidental Expenses, etc., 5%		17.51	
Estimated Cost			367.71

3277–69. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09			224.51

3283–77. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09			224.51

3292–63. Bridge. 62 x 16.

Lumber R W	at $27 M ft.	1.59	42.93
" O P	" 27 " "	5.41	146.07
Carpenter Work	" 5 " "	7.00	35.00
Freight & Haul.	" 8 " "	do.	56.00
Earthwork			25.00
Incidental Expenses, etc., 5%			15.25
Estimated Cost			320.25

3301–97. Outlet Culvert. 3 x 3 x 20.

Estimated			90.00

3302–64. Stop Gate. 37 x 24 x 8.5.

Lumber R W	at $27 M ft.	8.90	240.30
" O P	" 27 " "	4.15	112.05
" Weirboards	@ 50 " "	1.15	57.50
" Battens	at 30 " "	0.80	24.00
Carpenter Work	" 10 " "	15.00	150.00
Freight & Haul.	" 8 " "	do.	120.00
Earthwork			60.00
Incidental Expenses, etc., 10%			76.38
Estimated Cost			840.23
Total forward			$5,973.71

Stanislaus Co.

1550 Main Canal Extension "A."

Brought Forward	$5,973.71

3316–67. Outlet Culvert. 2.5 x 3 x 16.

Estimated				75.00

3330–80. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09				224.51

3356–20. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09				224.51

3361–57. Outlet Culvert. 3 x 3 x 16.

Estimated				75.00

3366—38. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09				224.51

3378–22. Bridge. 60 x 20.

Lumber R W	at $27	M ft.	1.78	$48.06
" O P	" 27	" "	6.57	177.39
Carpenter Work	" 5	" "	8.35	41.75
Freight & Haul.	" 8	" "	do.	66.80
Earthwork				25.00
Incidental Expenses, etc., 5%				17.95
Estimated Cost				376.95

3393–00. Outlet Culvert. 3 x 4 x 16.

Estimated				75.00

3409–20. Inlet Gate. 3.5 x 4 x 16.

Estimated				75.00

3409–25. Outlet Gate. % ft. Opening.

Same as at Sta. 3155–09				224.51

3409–72. Stop Gate. 34 x 22 x 9.

Lumber R W	at $27	M ft.	8.45	228.15	
" O P	" 27	" "	4.65	125.55	
Totals forward		" "	13.10	$353.70	$7,548 70

1551 Main Canal Extension "A."

Brought Forward		M ft....	13.10	$353.70	$7,548.70
Lumber Weirboards	at $50	" " ...	1.00	50.00	
" Battens	" 30	" " ...	0.70	21.00	
Carpenter Work	" 10	" " ...	14.80	148.00	
Freight & Haul.	" 8	" " ...	do.	118.40	
Earthwork, excavation & back fill.....				60.00	
Incidental Expenses, etc. 10%.....				75.11	
Estimated Cost					826.21

3432–02. Bridge. 62 x 16.

Lumber R W	at $27	M ft....	1.58	42.66	
" O P	" 27	" " ...	6.02	162.54	
Carpenter Work	" 5	" " ...	7.60	38.00	
Freight & Haul.	" 8	" " ...	do.	60.80	
Earthwork				25.00	
Incidental Expenses, etc., 5%.....				16.45	
Estimated Cost					345.45

3432–40. Outlet Gate. 3 x 16 x 6.

Same as at Sta. 3135–78..... 109.17

3438–90. Outlet Gate. 3.5 x 16 x 3.

Same as at Sta. 3158–40..... 98.28

3452–30. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3155–09..... 224.51

3465–46. Outlet Gate. 3.5 x 16 x 4.

Same as at Sta. 3158–40..... 98.28

3473–61. Outlet Gate. 3 x 18 x 5.

Same as at Sta. 3158–40..... 98.28

3480–00. Outlet Gate. 2.5 x 16 x 3.

Same as at Sta. 3158–40..... 98.28

Total forward $9,447 16

Stanislaus Co.

1552 Main Canal Extension "A."

Brought Forward				$9,447.16
3489–06. Outlet Gate. 2.5 x 18 x 4.				
Same as at Sta. 3158–40				98.28
3489–33. Bridge. 60 x 16.				
Lumber R W	at $27 M ft.	1.50	$40.50	
" O P	" 27 " "	4.80	129.60	
Carpenter Work	" 5 " "	6.30	31.50	
Freight & Haul.	" 8 " "	do.	50.40	
Earthwork			25.00	
Incidental Expenses, etc., 5%			13.85	
Estimated Cost				290.85
3501–70. Outlet Gate. 2.5 x 16 x 3.				
Same as at Sta. 3158–40				98 28
3509–35. Inlet Gate. 5 ft. Opening.				
Same as at Sta. 3155–09				224.51
3509–75. Outlet Gate. 5 ft. Opening.				
Same as at Sta. 3155–09				224.51
3520–05. Outlet Gate. 2.5 x 16 x 5.				
Same as at Sta. 3158–40				98.28
3533–39. Inlet Gate. 4 x 5 x 16.				
Estimated				85.00
3839–85. Inlet Gate. 5 ft. Opening.				
Same as at Sta. 3155–09				224.51
3540–50. Waste Gate. 16 x 24 x 12.				
Lumber R W	at $27 M ft.	10.90	294.30	
" O P	" 27 " "	2.45	66.15	
" Weirboards	@ 50 " "	1.15	57.50	
" Battens	at 30 " "	0.70	21.00	
Totals forward	" "	15.20	$438.95	$10,791.38

Stanislaus Co.

1553 Main Canal Extension "A."

Brought Forward	M ft...	15.20	$438.95	$10,791.38
Lumber Piles	at $27 M ft....	6.40	172.80	
Carpenter Work	" 10 " " ...	21.60	216.00	
Freight & Haul.	" 8 " " ...	do.	172.80	
Driv. Piles sheet 100 @ 1.00			100.00	
Earthwork, excavation & back fill			60.00	
Incidental Expenses, etc., 10%			116.05	
Estimated Cost				1,276.60

Measuring Gates on Old Outlet Gates.

7–2½ ft. opening	@ $20.00		140.00	
13–3 " " "	23.00		299.00	
12–5 " " "	33.00		396.00	
				835.00
Total Estimated Cost				12,902.98

Length of Canal in Stanislaus County 40,800 Ft. 7.73 Miles.
Right of Way 200 Ft. in Width.

Sections of Canal.

12,400 ft. Base 30 ft. inside slopes 2½:1 cut 4.5
28,400 " " 25 " " " " " " 4.0

Stanislaus Co.

1554 Stanislaus County.

Estimated Cost of Main Canal Extension B.

Stop and outlet gate, bridges, etc	$12,354.04
Earth excavation 138,354 yds. at 10¢	13,835.40
Telephone Line 4.13 miles at $70	289.10
Engineering, general superintendence, etc., 10%	2,618.96
Total	$29,097.50

Right of way 100 acres @ ——.

List of stop and outlet gates, bridges, etc., on following pages.

1555 Main Canal Extension "B."

Station 3537–35. Beginning of Extension.

3556–40. Stop Gate. 33 x 24 x 12 ft.

Lumber R W	at $27 M ft....	14.66	$395.82	
" O P	" 27 " " ...	8.12	219.24	
" Weirboards	@ 50 " " ...	2.60	130.00	
" Battens	at 30 " " ...	0.72	21.60	
" Piles Sheet	@ 27 " " ...	8.46	228.42	
Carpenter Work	@ 10 " " ...	34.56	345.60	
Freight & Haul.	" 8 " " ...	do.	276.48	
Driv. piles sheet 132 at $1.00.....			132.00	
Earthwork, excavation & back fill.....			100.00	
Incidental Expenses, etc., 10%.....			184.91	
Estimated Cost				2,034.07

3557–25. Waste Gate. 50 x 24 x 10.

Estimated Cost	3,000.00

3558–13. Stop Gate. 32 x 18 x 12.

Same as at Sta. 3556–40.....	2,034.07

3590–35. Bridge. 60 x 16.

Lumber R W	at $27 M ft....	1.40	37.80	
" O P	" 27 " " ...	4.43	119.61	
Carpenter Work	" 5 " " ...	5.83	29.15	
Freight & Haul.	" 8 " " ...	do.	46.64	
Earthwork			25.00	
Incidental Expenses, etc., 5%.....			12.91	
Estimated Cost				271.11

3592–36. Outlet Gate. 5 ft. Opening.

Lumber R W	at $27 M ft....	3.72	100.44	
" O P	" 27 " " ...	0.26	7.02	
Carpenter Work	" 10 " " ...	3.98	39.80	
Freight & Haul.	" 8 " " ...	do.	31.84	
Totals forward			$179.10	$7,339.25

1556 Main Canal Extension "B."

Brought Forward		$179.10	$7,339.25
Earthwork, excavation & back fill		25.00	
Incidental Expenses, etc., 10%		20.41	
Estimated Cost			224.51

3600–00. Outlet Culvert. 3 x 3 x 14.

Estimated			75.00

3602–99. Outlet Gate. 5 x 18 x 4.

Lumber R W	at $27 M ft.	1.90	51.30
" O P	" 27 " "	0.30	8.10
Carpenter Work	" 10 " "	2.20	22.00
Freight & Haul.	" 8 " "	do.	17.60
Earthwork, excavation & back fill			25.00
Incidental Expenses, etc., 10%			12.40
Estimated Cost			136.40

3603–18. Outlet Gate. 5 x 16 x 5.

Same as at Sta. 3602–99			136.40

3605–57. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3592–36			224.51

3613–85. Outlet Gate. 3 x 14 x 3½.

Lumber R W	at $27 M ft.	1.40	37.80
" O P	" 27 " "	0.20	5.40
Carpenter Work	" 10 " "	1.60	16.00
Freight & Haul.	" 8 " "	do.	12.80
Earthwork, excavation & back fill			20.00
Incidental Expenses, etc., 10%			9.20
Estimated Cost			101.20

3624–73. Outlet Gate. 3 x 16 x 5.

Same as at Sta. 3613–85			101.20
Total forward			$8,338.47

Stanislaus County.

1557 Main Canal Extension "B."

Brought Forward				$8,338.47
3633–01. Bridge. 60 x 18.				
Lumber R W	at $27	M ft....	2.16	$58.32
" O P	" 27	" " ...	4.68	126.36
Carpenter Work	" 5	" " ...	6.84	34.20
Freight & Haul.	" 8	" " ...	do.	54.72
Earthwork				25.00
Incidental Expenses, etc., 5%				14.93
Estimated Cost				313.53
3645–34. Outlet Gate. 3 x 16 x 5.				
Same as at Sta. 3613–85				101.20
3649–66. Outlet Gate. 3 x 18 x 5.				
Same as at Sta. 3613–85				101.20
8653–50. Bridge. Cross Station.				
Estimated				500.00
3661–88. Outlet Gate. 3 x 16 x 6.				
Same as at Sta. 3613–85				101.20
3666–38. Outlet Culvert. 2½ x 14 x 3.				
Estimated				65.00
3677–68. Outlet Gate. 5 ft. Opening.				
Same as at Sta. 3592–36				224.51
3689–76. Outlet Gate. 5 ft. Opening.				
Same as at Sta. 3592–36				224.51
3696–18. Outlet Gate. 3 x 16 x 5.				
Same as at Sta. 3613–85				101.20
3696–62. Stop Gate. 33 x 24 x 8.				
Lumber R W	at $27	M ft....	1.00	27.00
" O P	" 27	" " ...	6.30	170.10
Totals forward		M ft....	7.30	$197.10 $10,070.82

Stanislaus County.

1558 Main Canal Extension "B."

Brought Forward	M ft....	7.30	$197.10	$10,070.82
Lumber Weirboards @ $50	" " ...	0.86	43.00	
" Battens at 30	" " ...	0.64	19.20	
Carpenter Work " 10	" " ...	8.80	88.00	
Freight & Haul. " 8	" " ...	do.	70.40	
Earthwork, excavation & back fill.....			60.00	
Incidental Expenses, etc., 10%.....			47.77	
Estimated Cost				525.47

3710–27. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3592–36..... 224.51

3727–65. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3592–36..... 224.51

3743–86. Outlet Gate. 3.5 x 14 x 3.

Same as at Sta. 3613–85..... 101.20

3755–09. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3592–36..... 224.51

3755–19. Outlet Gate. 5 ft. Opening.

Same as at Sta. 3592–36..... 224.51

3755–39. Waste Gate. 5 ft. Opening.

Same as at Sta. 3592–36..... 224.51

Measuring Gates on Outlet Gates.

1–2½ ft. opening	at $20.00.....	20.00	
8–3 " "	" 23.00.....	184.00	
10–5 " "	" 33.00.....	330.00	
Total			534.00
Total Estimated Cost.....			$12,354.04

Length of Canal 21,800—4.13 miles.
Right of way 200 ft. in width.

Section of Canal.

Base 25 ft. inside slopes 2½:1 various cuts.

Stanislaus Co.

1559 Oristimba Branch Canal.

6 Stop Gates 12 x 12 x 5 at $150.00		$900.00
7 Outlet " 3 x 6 x 4 " 35.00		245.00

Flume Over Oristimba Creek.

Lumber	at $27 M 't....	21.50	$580.50
Carpenter Work	@ 10 " " ...	do.	215.00
Freight & Haul.	@ 8 " " ...	do.	172.00
Earthwork			100.00
Incidental Expenses, etc., 10%			106.70
Estimated Cost			1,174.20
Earth Excavation 11,000 yrs. @ 7¢			770.00
Engineering, General Superintendence, etc., 10%			231.80
Total Estimated Cost			$3,321.00

Length of Canal 4000 ft.

Section of Canal.

Base 8 ft. Inside slopes 1½:1 Average Cut 3 ft.

Stanislaus Co.

Endorsed: Affidavit of Robert H. Goodwin on Motion for Injunction Pendente Lite. Filed January 10, 1908. Southard Hoffman, clerk, by J. A. Schaertzer, Deputy clerk.

1560 COMPLAINANT'S EXHIBIT No. 3.

June Term, Board of Supervisors, 1904.

MONDAY, *June 20th,* 1904.

The Board meets pursuant to adjournment.
Present: Full board and clerk.

In the Matter of Fixing the Rate for Irrigating Lands under the San Joaquin and Kings River Canal in Merced County, California.

On this 20th day of June, 1904, there came on before the Board to be heard, the petition of W. J. Stockton et als., filed with the clerk on the 18th day of May, 1904, praying this Board to regulate and establish the maximum rates which the San Joaquin and Kings River Canal and Irrigation Company, a corporation, shall charge for water for irrigating purposes.

Thereupon due proof was made that said petition had been published in accordance with law, together with a notice of this hearing.

And thereupon the Board, having heard the evidence of all parties, relating to said subject, estimates the value of the canals, ditches, and all other property actually used and useful to the appropriations and furnishing of water belonging to the said San Joaquin and Kings River Canal and Irrigation Company to be the sum of $832,681.20, and this Board does further estimate that the annual reasonable expenses of said corporation including the costs of repairs, management and operating of said works is the sum of $34,943.65.

And thereupon on motion of Supervisor Ogden, seconded by Supervisor Deane, it was resolved that the maximum rate at which water may and shall be sold by said Corporation within the County of Merced, for the purpose and use of irrigating shall be one dollar and eight cents per acre per annum commencing and to take effect on the first of July, 1904, Supervisors Ogden, Deane,
Hamilton and Price voting Aye, and Supervisor Whitworth,
1561 no.

It is further ordered by this Board that a record of said proceedings be made in the records of this Board, and that the Clerk cause the same to be published in the manner and for the time in which said petition and notice were published.

County Clerk's Office.

STATE OF CALIFORNIA,
County of Merced:

I, P. J. Thornton, County Clerk of the said County of Merced, State of California, and ex-officio Clerk of the Board of Supervisors thereof, do hereby certify that I have compared the foregoing copy of order made by the Board of Supervisors, with the original record of the same remaining in this office, and that the same is a full, true and correct copy of said original record.

Witness my hand and the seal of said Board, this 13th day of October, 1908.

[SEAL.] P. J. THORNTON, *Clerk.*

Endorsed: Compl't's Exhibit No. 3. E. H. H. Master. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1562 COMPLAINANT'S EXHIBIT No. 4.

Office of the Board of Supervisors of Fresno County, California.

FRESNO, CALIF., *June 29th,* 1904.

Present, Full Board.

In the Matter of the Petition of C. H. BANTA et al., Asking the Board to Fix Water Rates of the San Joaquin and Kings River Canal and Irrigation Company.

The petition of C. H. Banta and fifty-nine others, all of whom are inhabitants and tax-payers of Fresno County, and consumers — water from the canals of the San Joaquin and Kings River Canal and Irrigation Company, a corporation, praying this board to regulate and establish the maximum rates which the aforesaid corporation shall charge for the purpose of irrigation, came on regularly to be heard on this 29th day of June, 1904, Mr. W. D. Crighton appearing for said petitioners, and Mr. W. B. Treadwell appearing for said corporation.

Thereupon it was duly proved that said petition and a notice of this hearing had been duly published according to law.

And thereupon this Board, having heard evidence on behalf of all parties, does hereby estimate the value of the canals and all other property actually used and useful and to the appropriation and furnish- of water, belonging to said San Joaquin and Kings River Canal and Irrigation Company, to be the sum of $832,681.20, and does hereby estimate the annual reasonable expenses of said corporation, including the cost of repairs, management and operating said works, to be the sum of $34,943.65; and this Board does hereby fix and establish the sum of 62 & ½ cents per acre per annum as the maximum rate which said corporation may charge and collect in said Fresno County for irrigation, commencing on the 1st day of July, 1904.

In Witness whereof, the Board of Supervisors of the County of Fresno, State of California, has caused a record hereof to be made in the minutes of said Board:

And the Clerk of said Board is hereby directed to publish the same in the manner and for the time in which said petition and notice were published.

(Volume "U" Page 177 Minutes of the Board of Supervisors.)

1563 STATE OF CALIFORNIA,
County of Fresno, ss:

I, W. O. Miles, County Clerk and ex-officio Clerk of the Board of Supervisors, in and for said Fresno County, do hereby certify the foregoing to be a full, true and correct copy of the original order of the Board of Supervisors now of record in my office, and of the whole of such original.

In Witness Whereof, I have hereunto set my hand and affixed

the seal of said Board of Supervisors, this 13th day of October, 1908.

[SEAL.] W. O. MILES, *Clerk*,
By A. D. EWING,
Deputy Clerk.

Endorsed: Compl't's Exhibit No. 4. E. H. H., Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1564 COMPLAINANT'S EXHIBIT NO. 6.

This agreement made and entered into this Eighteenth day of May, A. D. 1871, between The San Joaquin and King's River Canal Company, a corporation duly organized and doing business under and by virtue of the laws of the State of California, the party of the first part, and Henry Miller and Charles Lux, partners under the firm name and style of Miller & Lux, of the City and County of San Francisco and State of California, the parties of the second part:

Whereas: The party of the first part is organized for the purpose of constructing a canal on the West side of the San Joaquin river from King's River to tide water at some point at or near Suisun Bay,

Now therefore, this agreement witnesseth: That the said party of the first part, in consideration of the covenants hereinafter contained upon the part of the parties of the second part, does hereby promise, covenant and agree to and with the said parties of the second part that it will construct said canal and complete at least sixty (60) miles thereof from Fresno Slough in Fresno County by the first day of January, 1872, and a further distance to some point on the Western Pacific Railroad by the first day of April, 1872; provided, the progress of the work be not obstructed or interfered with by any owner or owners of land along the route of said canal; and in case of such obstruction or interference, this agreement shall not be void if the said Company use due diligence in acquiring a right of way by legal proceedings, and in prosecuting the work of constructing said canal; and further, that said party of the first part will, within a reasonable time, conducting the work with due diligence, lead into said canal the waters of King's
1565 river, thereby through said canal connecting the waters of the last mentioned River with those of the San Joaquin River, and that said canal from Cole or Murphy's Slough in the County of Fresno and State aforesaid, shall be forty (40) feet wide.

And the said parties of the second part, in consideration of the covenants herein contained on the part of the party of the first part, do hereby promise, covenant and agree to and with the party of the first part to give and grant unto it a right of way by the most practicable route over their lands in Fresno and Merced

counties, West of the San Joaquin River, for the purpose of making and maintaining said canal and its branches, and also for a tow-path on each side of said canal.

And the said parties of the second part, in the considerations aforesaid, do further promise, covenant and agree to and with the said party of the first part, that if the said party of the first part shall complete as aforesaid at least sixty (60) miles of said canal from the said Fresno Slough by the first day of January, 1872, that they will, after the expiration of time sufficient to raise two crops of grain on their said land, after the introduction of water by means of said canal for the purpose of irrigation, pay and give to said party of the first part, by way of subsidy, the sum of Twenty Thousand ($20,000.00) Dollars in United States Gold Coin; provided, however, that sufficient water is furnished them, under the Rules and Regulations of said Company, to irrigate not less than fifty thousand (50,000) acres of their land; and it is expressly understood and agreed that should the said party of the first part be unable to furnish to said parties of the second part sufficient water from said canal to irrigate fifty thousand acres of their land at such times and seasons as irrigation may be demanded
1566 by the said parties of the second part, then said subsidy shall be proportionally reduced—that is to say, the amount to be paid by way of subsidy shall bear the same proportion to twenty thousand dollars as any less number of acres than fifty thousand, belonging to said parties of the second part, which said canal is capable of irrigating, bears to fifty thousand acres; and further, the said parties of the second part promise and agree to and with the said party of the first part, that when the said canal shall be completed from King's River to tide-water, as aforesaid, so as to contain at all seasons of the year a sufficiency of water to irrigate at least fifty thousand acres of land of the said parties of the second part, and for nine (9) months in the year to run boats of sufficient size and capacity to carry seventy-five (75) tons of freight at a single load, they will give and pay unto the said party of the first part, by way of subsidy, the further sum of Ten thousand ($10,000.00) Dollars in United States Gold Coin.

And the said parties of the second part further promise, covenant and agree to and with the said party of the first part, that when the said canal is so far completed as to furnish water for purposes of irrigation, they will pay to said party of the first part for each crop a sum not exceeding one dollar and twenty-five cents ($1.25) per acre, or the prices paid by other parties, for every acre of their said lands actually irrigated by them from the waters of said canal.

And for the purpose of enabling the party of the first part to carry out its enterprise and effectuate its designs as aforesaid, it is further agreed that it shall have the use and benefit of all sloughs between said canal and the San Joaquin River on the said lands of the parties of the second part.

And it is further agreed that should the said canal diminish

the natural overflow which usually occurs between the first
1567 day of April and the fifteenth day of June, of the San Joaquin River and its sloughs, upon the said lands of the said parties of the second part, then the said party of the first part shall, at any time between said months, open the gates of said canal at the request of the said parties of the second part, and, free of charge and expense to them, permit an overflow from the said canal on said lands equal in quantity of water to that of which they were deprived as aforesaid.

And it is further agreed that should the line of the said canal not be extended through the northern portion of the said lands owned by the said parties of the second part, that is to say, Township 8 South, Range 9 East, and Township 8 South, Range 10 East, Mount Diablo Meridian, then they shall have the privilege of conducting from said canal, by means of a branch canal, a sufficiency of water for the purpose of irrigating at least five thousand (5000) acres of said northern portion, which said five thousand acres are to be computed as a part of the fifty thousand acres above mentioned.

And the said party of the first part further promises and agrees that it will promptly construct or cause to be constructed substantial bridges, not less than twelve feet wide, over the said canal on the lands of the said parties of the second part, and that it will construct one such bridge at every six miles over such lands, at such points as the parties of the second part may designate.

It is hereby further agreed that the parties of the second part shall not be responsible to the party of the first part, at any time, for any damages which their cattle may do to the embankments of said canal; and it is further understood between the parties hereto that the said party of the first part shall have the privilege of cutting such brush from the lands of the said parties of the second part
1568 as may be necessary for use in constructing the embankments of said canal over their lands, but such brush shall only be cut from such places as shall be designated by the parties of the second part.

The party of the first part further promises, covenants and agrees to and with the parties of the second part to furnish and give them a sufficiency of water from said canal for their cattle, and for all domestic purposes for themselves, their tenants and employees, free of charge.

And the party of the first part hereby further promises, covenants and agrees to and with the parties of the second part, that should any damage result to the lands of the parties of the second part by mismanagement or want of due diligence and care in the construction and maintenance of said canal, it will pay to them, in gold coin, the full amount of said damage, whether occasioned by sand, water or other causes, and to indemnify them fully for all loss thereby sustained.

It is further covenanted and agreed that the right of way herein given shall not be transferred, or this contract or any part thereof assigned by the party of the first part to any person or persons, com-

pany or companies, corporation or corporations whatever, without the written consent of the parties of the second part.

Should the party of the first part fail to perform the covenants and agreements herein contained to be kept and performed on its part, then and in that event, this agreement shall be null and void.

In witness whereof, the said San Joaquin and King's River Canal Company, party of the first part, has caused these presents to be subscribed in its name by the President of said Company, and to be attested by the Secretary of said Company, and the seal of
1569 said Corporation to be hereunto affixed as the act and deed of said Company, and the said Henry Miller and Charles Lux, parties of the second part, have also hereunto set their hands and seals the day and year first above written.

(Executed in Duplicate.)

[SEAL.] SAN JOAQUIN AND KING'S RIVER CANAL COMPANY,
By JOHN BENSLEY, *President.*

HENRY MILLER. [SEAL.]
CHAS. LUX. [SEAL.]

Signed and delivered in the presence of—
Attest:
L. B. BENSLEY,
Secretary Pro Tem. of the "San Joaquin and King's River Canal Company."

Endorsed: "Agreement The S. J. & K. R. Canal Co. with Miller & Lux." "Published and Filed December 1st 1899. Southard Hoffman, Clerk." "No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al., Complainant's Exhibit No. 6 E. H. H. Master." Filed May 14 1910 Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1570 COMPLAINANT'S EXHIBIT No. 7.

This indenture of two parts made and entered into this Seventh day of February A. D. 1872 by and between Henry Miller and Charles Lux, of the City and County of San Francisco, State of California, parties of the first part, and The San Joaquin and King's River Canal and Irrigation Company, a corporation incorporated under the laws of the State of California, party of the second part witnesseth

1 First. A certain agreement in writing bearing date May 18th 1871, entered into by the San Joaquin and King's River Canal Company, as party of the first part, and said Henry Miller and Charles Lux, as parties of the second part,—providing among other things, for the construction of a canal by said party of the first part thereto, and for the payment of *of* certain subsidies in aid thereof by said parties of the second part thereto (which said contract has been, by

the consent of said parties of the second part thereto, assigned by said party of the first part thereto to the party of the second part to this instrument), is hereby by mutual consent annulled and canceled; and neither party has any rights thereunder.

2 Secondly. In full satisfaction of their obligation under said agreement to pay a subsidy in aid of the construction of a canal for the distance for which said canal is already constructed, said parties of the first part hereto have given their two certain promissory notes, bearing even date herewith, each for six thousand six hundred and sixty six 67/100 dollars, payable in U. S. Gold Coin to the order of Jno. Bensley, President of the San Joaquin and Kings River Canal and Irrigation Company,—one on the first day of August A. D. 1872 and one on the first day of August A. D. 1873.

3 Thirdly. Said parties of the first part hereto hereby covenant and agree to and with said party of the second part hereto, to pay to said party of the second part, on the first day of August
1571 A. D. 1874 the further sum of six thousand six hundred and sixty six 66/100 dollars in U. S. Gold Coin provided and in case that (and not otherwise) said party of the second part shall before that date

1. Extend its canal (already constructed for about forty miles of its length from Fresno Slough Northerly) so that its whole length from said slough shall not be less than fifty-eight miles, and furnish to said parties of the first part from said canal already constructed, and to be constructed, water sufficient to irrigate fifty thousand acres of land now owned by said parties of the first part, lying between said canal already built, and so to be built, on the West, and the San Joaquin River on the East; or

2. Construct other canal or canals from said San Joaquin River, or some one of its tributaries, or from Tulare Lake,—which shall furnish the water necessary for irrigating said fifty thousand acres of land, as conveniently for use for that purpose as could be done by the extension hereinbefore mentioned, of said canal already constructed, said extension to be at the grade of six inches to the mile.

4 Fourthly. Said parties of the first part do hereby give and grant to said party of the second part, the right of way through and over all and any of their lands in Fresno, Merced and Stanislaus Counties in said State of California, on the West side of the San Joaquin River, for any and all canal and canals which are already, or shall be hereafter, constructed by said party of the second part for irrigation or navigation, and to construct, maintain, keep in repair, and operate the same,—and for tow paths and other necessary appurtenances to such canals: with the right to pas- and repass over and upon the adjacent land of said parties of the first part for said purposes, doing always as little damage as possible: said party of the second part to further have the privilege of cutting and taking from the land of said parties of the first part, at such places as they
1572 designate, such brush as may be needed for the construction or repair of said canal or canals over said land—and also to have the use and benefit of all sloughs on the land of said parties of the first part between the proposed canal and San Joaquin River,

for the purpose of conducting water to said canal, or to make a part thereof.

5 Fifthly. Said parties of the first part do hereby agree to pay to said party of the second part for water furnished by it, used in irrigating each crop, the regular price paid by others for irrigation, not to exceed one dollar and twenty-five cents per acre, for each acre so irrigated of land owned by said parties of the first part.

6 Sixthly. It is further agreed by and between the parties hereto, that in case the canal of said party of the second part shall diminish the natural overflow of the San Joaquin River and its sloughs, which usually occurs between the first day of April and the fifteenth day of June in each year, upon the land of said parties of the first part, then and in such case said party of the second part shall, at any time between said dates, at the request of said parties of the first part, and free of charge and expense to them, permit an overflow from the said canal upon said lands equal to that of which they shall have been so deprived as aforesaid.

7 Seventhly. And it is further agreed, by and between the parties hereto, that should the line of said canal already built, or of some other canal to be built by said party of the second part, not be extended through the Northern portion of the said lands owned by said parties of the first part,—that is to say, Township 8 South, Range 9 East, and Township 8 South, Range 10 East, Mt. Diablo Meridian,—then they, the said parties of the first part, shall have the privilege of conducting from said canal, by means of a branch canal a sufficiency of water for the purpose of irrigating at
1573 least five thousand acres of said Northern portion of said land; the same to be reckoned as a part of the 50,000 acres hereinbefore mentioned.

8 Eighthly. Said party of the second part further covenants and agrees to promptly construct, or cause to be constructed, substantial bridges not less than twelve feet wide, over its canal, on the lands of said parties of the first part,—one for every six miles,—at such points as said parties of the first part may direct.

9 Ninthly. It is further agreed that said parties of the first part shall not be responsible to said party of the second part for any damage which their cattle may do to the embankments of the canal of said party of the second part.

10 Tenthly. Said party of the second part further agrees to furnish said parties of the first part a sufficiency of water from its canals for their cattle, and for all domestic purposes of themselves, their tenants and employees free of charge, and further agrees to pay to said parties of the first part in United States gold coin the full amount of any damage resulting to their land from mismanagement, or the want of due diligence and care in the construction, management and maintenance of said canal,—whether occasioned by sand, water or other causes, and to indemnify them fully for all loss thereby sustained.

11 Eleventhly. It is further understood and agreed that the right of way herein given shall not be transferred, nor this contract, nor any part thereof assigned by said party of the second part to any

person or persons, company or companies, corporation or corporations whatever without the written consent of the parties of the first part.

1574 12 Twelfthly. Said party of the second part agrees to furnish water for the irrigation of the 50000 acres of land belonging — said parties of the first part, hereinbefore mentioned as follows, to-wit: whenever required by said parties of the first part for irrigation at any time in the year 1872 after the first day of April, water enough to irrigate 16667 acres; whenever required for irrigation, after the first day of April, in the year 1873 by said parties of the first part, enough water to irrigate 16667 acres additional or 33334 acres in all; and by the first day of August A. D. 1874 enough water to irrigate 16666 acres additional making 50000 acres in all. And in case water shall not be furnished as aforesaid the subsidy to be paid hereunder shall be proportionally reduced, so that the amount of subsidy paid in each year by said parties of the first part shall bear the same proportion to that hereinbefore provided to be paid in such year, as the area of land for which water shall be furnished in each year, as provided hereunder shall bear to the area for which water is hereinbefore provided to be furnished in such year.

Water to be furnished under and according to the rules of the corporation party of the second part hereto, and the reduction of subsidy above provided for to be in lieu of all claims for damages for not furnishing water as agreed.

In testimony whereof said parties of the first part have set their hands and seals, and said party of the second part has caused its corporate seal and the hands of its President and Secretary to be affixed to this and another instrument of like tenor and date the day and year first above written.

HENRY MILLER. [SEAL.]
CHAS. LUX. [SEAL.]
JOHN BENSLEY,
Pres. S. J. & K. R. C. & I. Co.
[SEAL.] SAMUEL I. C. SWEZCY,
Sec. S. J. & K. R. C. & I. Co.

In the Presence of
GEO. A. NOURSE.

1575 STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this Twelfth day of November A. D. one thousand eight hundred and seventy nine before me, Sam'l S. Murfey, a Notary Public, in and for the said City and County residing therein duly commissioned and sworn, personally appeared John Bensley known to me to be the president of the San Joaquin and Kings River Canal and Irrigation Company, the corporation that executed the foregoing Contract and acknowledged to me that such corporation executed the same.

And I do further certify that at the same date before me personally appeared Geo. A. Nourse, personally known to me to be the

same person whose name is subscribed to the foregoing Contract as a witness thereto, who being by me duly sworn, deposes and says that he resides in the City of Oakland, that he was present and saw Samuel I. E. Swezey known to him to be the secretary of the San Joaquin and Kings River Canal and Irrigation Company, the Corporation that executed the foregoing contract,—and whose name is subscribed to and who executed the said Contract as Secretary of said Corporation *and saw him* sign seal and deliver the same as such Secretary and that he, the deponent, thereupon signed his name as subscribing witness thereto.

In witness whereof, I have hereunto set my hand and affixed my official seal at my office the day and year last above written.

[SEAL.] SAM'L S. MURFEY,
Notary Public.

1576 STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this Twelfth day of November, A. D. One Thousand Eight Hundred and Seventy-nine before me, Sam'l S. Murfey, a Notary Public, in and for the said City and County, residing therein, duly commissioned and sworn, personally appeared Henry Miller and Charles Lux, known to me to be the persons described in and who executed and whose names are subscribed to the within and annexed instrument, and they each acknowledged to me that they executed the same.

In witness whereof, I have hereunto set my hand and affixed my Official Seal, the day and year in this Certificate first above written.

[SEAL.] SAM'L S. MURFEY,
Notary Public.

Endorsed: (See #219) —52— Contract. Miller and Lux with The San Joaquin and Kings River Canal and Irrigation Company. Dated February 7th, 1872. Recorded at request of Wells Fargo & Co. at 10 min. past 8 o'clock A. M., this 14th November, 1879, in Book C of Covenants, Records of Fresno Co., Cal., pp. 254 et seq. $4.75. A. M. Clark, Recorder. Recorded at request of Wells Fargo & Co. at 30 min. past 8 o'clock A. M., Novbr. 21st, 1879, in Book B of Agreements page 59 et seq., Records of Merced Co. $4.75. G. J. Hamilton, Recorder, by M. Walsh, Dep-ty. No. 8636. Plaintiff's Exhibit No. 42. Filed Mch. 27, 1900. G. W. Cartwright, Clerk. By A. D. Ewing, Deputy. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Compl't's Exhibit No. 7. E. H. H., Master. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1577 COMPLAINANT'S EXHIBIT No. 8.

This instrument, made this Twelfth day of November A. D. 1879, by and between the San Joaquin and Kings River Canal and Irrigation Company, a corporation organized and existing under the laws of the State of California, the party of the first part and Henry Miller and Charles Lux, the parties of the second part, witnesseth:

Whereas, differences have existed between the respective parties hereto in relation to the construction of a contract made by and between said parties bearing date the seventh day of February, 1872, and a suit is now pending wherein said construction is involved.

And whereas, a committee was appointed by the Board of Trustees of said corporation on the 28th day of August, 1879, "to take steps "to settle without further litigation all matters in dispute in suits "now pending between this Company and Miller & Lux:"

And said Committee afterwards reported to said Board of Trustees in writing in which a settlement of said matters was recommended upon the terms therein set forth, and said recommendation was concurred in by the owners of more than three-fourths of the Capital stock of said corporation, to which said report and recommendation now on file among the records of said corporation reference is here made for greater certainty;

And whereas, said parties of the second part have consented to settle and compromise all said matters of difference upon the terms recommended by said committee and stockholders and the said party of the first part by its Board of Trustees on the 30th day of October, 1879, duly passed a resolution approving of said settlement and compromise, and authorized the President and Secretary of said corporation to carry said resolution into effect.

1578 Now in consideration of the premises, it is covenanted and agreed as follows:

First. Said parties of the second part in consideration of the premises and of the covenants herein made by the party of the first part shall forthwith upon the execution of this instrument make, execute and deliver to the said San Joaquin and Kings River Canal and Irrigation Company a deed which shall convey the right of way for said canal where the same passes through or over their lands, of a width of one hundred (100) feet on each side of the center line of said canal.

Second. Said party of the first part in consideration of the premises and of the execution and delivery of said deeds hereby covenants and agrees, that subdivision Fifth of the contract referred to as Exhibit "A" in the complaint filed in that certain action now pending in the District Court of the Nineteenth Judicial District of the State of California in and for the City and County of San Francisco, entitled "The San Joaquin and Kings River Canal and Irrigation Company vs. Henry Miller and Charles Lux," being the same contract hereinbefore referred to and bearing date the seventh day of February, A. D. 1872, shall be construed to mean that this Company, the party of the first part herein, will deliver water

thereunder at its regular rates not exceeding one dollar and twenty-five cents per acre per crop, provided the crops are cut, but in case the alfalfa lands should be pastured, then each supply of water of the usual quantity supplied to produce a crop shall be deemed to be such a supply as will entitle a charge to be made therefor the same as if a crop shall be cut, and said subdivision shall likewise apply with the proviso aforesaid, to said Miller and Lux, their tenants, employés, heirs, executors and administrators, and shall run with the land so long as this Company exists, to the extent of thirty-three thousand three hundred and thirty-three and one third (33,333 1/3) acres, but shall not apply to the grantees of said Miller and
1579 Lux, nor to the grantees of their heirs, executors, or administrators; and subdivision Tenth of said contract shall apply to all domestic animals owned, pastured or cared for by Miller and Lux, their tenants, employés, heirs, executors or administrators.

In witness whereof, the said The San Joaquin and Kings River Canal and Irrigation Company has hereunto set and affixed its corporate name and seal the day first above written by Joseph Sedgley, its President and F. L. Palmer, its Secretary, thereunto duly authorized, and the parties of the second part have hereunto set their hands and seals the day and year first above written.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY.

[SEAL.] By JOS. SEDGLEY, *President.*

F. L. PALMER, *Secretary.*

CHAS. LUX. [SEAL.]

HENRY MILLER. [SEAL.]

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this Twelfth day of November, A. D. One Thousand Eight Hundred and Seventy-Nine, before me, Sam'l S. Murfey, a Notary Public, in and for the said City and County, residing therein, duly commissioned and sworn, personally appeared Jos. Sedgley, known to me to be the President, and F. L. Palmer known to me to be the Secretary of The San Joaquin and Kings River Canal and Irrigation Company, the corporation that executed the foregoing instrument, and acknowledged to me that such Corporation executed the same.

1580 In Witness Whereof, I have hereunto set my hand and affixed my official seal the day and year in this Certificate first above written.

[SEAL.] SAM'L S. MURFEY,
Notary Public.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this Twelfth day of November A. D. One Thousand Eight Hundred and Seventy-nine before me, Sam'l S. Murfey, a Notary Public, in and for the said City and County, residing therein, duly

commissioned and sworn, personally appeared Charles Lux and Henry Miller, known to me to be the persons described in and who executed and whose names are subscribed to the within and annexed instrument, and they each acknowledged to me that they executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, the day and year in this Certificate first above written.

[SEAL.] SAM'L S. MURFEY,
Notary Public.

Endorsed: Agreement. San Joaquin and Kings River Canal and Irrigation Company with Henry Miller and Charles Lux. Dated November 12th, 1879. Recorded at request of Wells Fargo & Co. at 15 min. past 8 o'clock A. M. this 14th November 1879 in Book C of Covenants, Records of Fresno Co. Cal. pp. 262 et seq. H. M. Clark, Recorder. Recorded at request of Wells Fargo and Co. at 35 min. past 8 o'clock A. M. Nov'b'r 21st 1879 in Book B of Agreements page 66 et seq. Records Merced Co. G. J. Hamilton Recorder by M. H. Walsh, Dep-ty. $2.75. U. S. Circuit Court, N. Dist. of Cal. The San Joaquin and Kings River Canal and Irrigation Co. vs. The County of Stanislaus et al., Complainants. No. 12257. Exhibit No. 6. E. H. H. Examiner. Filed May 14 1910 Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk. Published and Filed December 1st, 1899, Southard Hoffman, Clerk. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 8 E. H. H. Master.

1581 COMPLAINANT'S EXHIBIT NO. 9.

This Agreement, made this 24th day of December, 1897, by and between The San Joaquin and Kings River Canal and Irrigation Company, a corporation organized and existing under the laws of the State of California, the party of the first part, and Miller & Lux, a corporation organized and existing under the laws of said State, the party of the second part, Witnesseth:

Whereas, on the 3rd. day of June 1897, Henry Miller individually and as surviving partner of the late firm of Miller & Lux, and the executor, heirs, devisees and legatees of Charles Lux, deceased, conveyed to the said party of the second part all of the property, assets and effects of said late firm of Miller & Lux; and,

Whereas, said Henry Miller and the executor, heirs, devisees and legatees of said Charles Lux, are the only persons interested in said Miller & Lux, said corporation, and for that reason said corporation (Miller & Lux), is considered by the parties hereto to be entitled to the rights, benefits and privileges hereinafter granted;

Now, Therefore, it is agreed by and between the parties hereto, that all the rights, benefits and privileges secured to Henry Miller and Charles Lux by a certain agreement made between them and the party of the first part on the 7th. day of February, 1872, and

by a certain further and supplementary agreement made between said parties on the 12th. day of November, 1879, have vested and shall inure to the benefit of the party of the second part, its tenants and employees, in the manner and as fully and effectually as they vested in and inured to the benefit of said Henry Miller and Charles Lux, but subject however, to all the conditions in said contracts expressed and contained.

And it is further agreed that the true intent and meaning of so much of the second paragraph of said last mentioned contract as relates to the rates to be paid by said Miller & Lux for water
1582 furnished for irrigation, is, that the said Henry Miller and Charles Lux were to pay, and the said party of the second part is to pay for each crop irrigated, or for water furnished of the usual quantity supplied to produce a single crop, one-half of the regular rates per season of two crops, but not in any case to exceed one dollar and twenty-five cents ($1.25) per acre per crop.

In Witness Whereof, this agreement has been executed in duplicate, by the Vice President and Secretary of the party of the first part, and by the President and Secretary of the party of the second part, under the corporate seals of said respective corporations, they having been respectively authorized thereto by resolution of the Boards of Directors of said corporations respectively.

[SEAL.] THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION CO.,
By J. LEROY NICKEL,
Vice President,
And by C. Z. MERRITT, *Secretary.*
[SEAL.] MILLER & LUX,
By HENRY MILLER, *President,*
And by DAVID BROWN, *Secretary.*

Errata: The word "succeed" in line 8 above should read "exceed". See Minutes of S. J. & K. R. C. & I. Co. Vol. 2, page 39.

C. Z. M.

Endorsements: "Agreement. The San Joaquin & Kings River Canal & Irrigation Co. with Miller & Lux. M. & L.'s copy recorded. U. S. Circuit Court, N. Dist. of Cal. The San Joaquin and Kings River Canal and Irrigation Co. vs. The County of Stanislaus, et al. No. 12257. Complainant's Exhibit No. 22 E. H. H. Examiner. Published and filed December 1st 1899. Southard Hoffman, Clerk. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. County of Stanislaus, et al. Complainant's Exhibit No. 9. E. H. H. Master. Filed May 14 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1583 COMPLAINANT'S EXHIBIT No. 10.

This Agreement, made this 18th day of May, 1899, by and between The San Joaquin and Kings River Canal and Irrigation Company, a corporation organized and existing under the laws of the State of California, the party of the first part, and Miller & Lux, also a corporation organized and existing under the laws of said State, the party of the second part,

Witnesseth: That, whereas, prior to the construction of the canal of the party of the first part, Henry Miller and Charles Lux were the owners of lands lying along and bordering upon the San Joaquin River, and its sloughs, in said State, and lying above and below the head of the canal of the party of the first part, and were [Seal.] the owners of riparian rights in and to the waters of said rivers and sloughs, and had been accustomed to and did actually use the waters of said river and sloughs which naturally overflowed said lands, and also to take water therefrom by artificial means, for the purpose of irrigating said lands and furnishing water for their cattle and livestock, and for other domestic uses, in accordance with their said riparian rights:

And, whereas, said Henry Miller and Charles Lux, for the purpose of aiding the construction of said canal of the party of the first part, did pay to the party of the first part a subsidy in money, and conveyed to it a right of way for its said canal where the same passed through the lands of said Henry Miller and Charles Lux of a width of one hundred (100) feet on each side of the center line of said canal, and permitted the party of the first part to appropriate and divert from said river through said canal eight hundred (800) cubic feet per second of the water flowing in said river:

And, whereas, at all times since said appropriation was made by the party of the first part said Henry Miller and Charles Lux, and said Henry Miller, as the survivor of them, and the party of the second part (as the successor in interest of said Henry Miller and Charles Lux) continued, as said riparian owners, to use the 1584 overflow waters of said river and sloughs upon said lands for the aforesaid purposes, and also to use, for the purpose of irrigating uncultivated land, and furnishing water for their live stock and for other domestic uses, and with the consent of the party of the first part, and without any charge therefor by it, the surplus water running in said canal not used or required by the water consumers of the party of the first part other than said Henry Miller, Charles Lux, and the party of the second part;

And, whereas, during all said times it was understood by all said parties that said Henry Miller and Charles Lux, and said Henry Miller, as the survivor of them, and said party of the second part, as the successor in interest of them, were of right entitled to the said use, without charge, of the said surplus water in said canal; and that said party of the first part was of right entitled to [Seal.] waste said surplus water on said uncultivated lands:

And, whereas, the party of the second part has agreed

to permit the party of the first part to appropriate and divert from said river, through its "Outside Canal", three hundred and fifty (350) cubic feet, per second of the water flowing in said river, in addition to the aforesaid eight hundred (800) cubic feet per second;

Now, therefore, in consideration of the premises, and to the end that the rights of the respective parties hereto, as heretofore understood and recognized, may be fixed and established, the party of the first part does hereby confirm unto said party of the second part the right to use, for the purposes of irrigating the said uncultivated lands above referred to, and of furnishing water for its cattle and live stock, and for other domestic uses, free of cost or charge to it, all or so much of the surplus water running in the canals of the party of the first part as the party of the second part may desire to use for said purposes, and which may not be used or required by the other water consumers of the party of the first part, and said party of the second part does hereby confirm unto said party of the first part the right to waste said surplus water on said uncultivated land.

1585 And the party of the first part does hereby acknowledge and declare that it has no claim to make against the party of the second part, or its predecessors in interest, on account of the use heretofore made by it and then of said surplus water.

In Witness Whereof the said parties hereto have caused these presents to be subscribed by their respective presidents and secretaries, under their respective corporate seals, all on the day and year first above written.

[SEAL.] THE SAN JOAQUIN & KINGS RIVER CANAL AND IRRIGATION CO.,
By HENRY MILLER, *President.*
By C. Z. MERRITT, *Secretary.*

[SEAL.] MILLER & LUX,
By HENRY MILLER, *President.*
By DAVID BROWN, *Secretary.*

Endorsed: Filed May 14 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk. Agreement of the San Joaquin & Kings River Canal & Irrigation Company with Miller & Lux. Dated 18th May 1890. No. 14554. In U. S. Circuit Court. Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Complt's Exhibit No. 10. E. H. H. Master, etc.

1586 COMPLAINANT'S EXHIBIT No. 11.

San Joaquin River.

Discharge Table, in Second Feet, With Depths Corresponding to Gauge in Weir at Head of Lone Willow Slough.

Basis of computation, from gauging of River made on August 9th. 1900, at a point fifty feet above Lone Willow Slough.

Gauge reading.		Second feet.	
3.00	Feet	473	Second Feet
3.10	"	500	"
3.20	"	548	"
3.30	"	595	"
3.40	"	645	"
3.50	"	719	"
3.60	"	774	"
3.70	"	827	"
3.80	"	887	"
3.90	"	945	"
4.00	"	1005	"
4.50	"	1324	"
5.00	"	1691	"
5.50	"	2076	"
6.00	"	2499	"
6.50	"	2945	"
7.00	"	3454	"
8.00	"	4503	"
9.00	"	5647	"
10.00	"	6883	"

1587 This agreement, made this seventeenth day of August A. D. 1898, between the San Joaquin & Kings River Canal & Irrigation Company, a corporation, the party of the first part, the California Pastoral & Agricultural Company, a corporation, the party of the second part, and Miller & Lux, a corporation, the party of the third part, witnesseth:

Whereas, on the 11th day of August, 1871, W. S. Chapman and Henry Miller and Charles Lux made and entered into an agreement for the construction of a canal to take water from the San Joaquin River, and for the maintenance of such canal after it should be constructed, and providing for the distribution of water that should be taken into said canal, a copy of which said contract is hereto annexed, and marked "Exhibit A".

Whereas, the party of the second part hereto, has by proper assignment acquired all of the interest of the said William S. Chapman; and the party of the third part hereto has by proper assignment acquired all of the interest of the said Henry Miller and Charles Lux in said agreement and in said Chowchilla Canal, and in all the water

said Canal is entitled to receive from the San Joaquin River or from said slough, and—

Whereas, the party of the third part hereto, Miller & Lux, are the owners of and entitled to take and receive all the water now flowing, or that may hereafter flow in the said slough through which said Chowchilla Canal now takes and receives its water, after the full amount of water which said Chowchilla Canal is entitled to receive through such Slough is supplied to and received by and into its said Canal, at the Head Gate and Weir hereinafter referred to, and—

Whereas, the party of the first part hereto, the San Joaquin and Kings River Canal and Irrigation Company, is the owner of Canals which are taking water from the said San Joaquin River, and are entitled to take and receive water from said River into said Canals, and—

1588 Whereas, differences have arisen between the parties hereto as to the rights of the said parties of the first, second and third parts hereto, to take water from the said San Joaquin River, and also as to the amount of water they are each entitled to take and receive from the said River, and as to their priorities in such water.

Now, therefore, for the purpose of settling and adjusting said differences as between the parties hereto, it is hereby agreed,

1. That said party of the first part has the prior right to divert from the San Joaquin River, at all times, sufficient water so that its canal shall have and receive Seven Hundred and Seventy-five (775) cubic feet of water per second, measured at a point in its main canal immediately above the head of the branch of said canal which is known as the Poso Canal, and where said Main canal passes through the North West quarter (N. W. ¼) of Section Thirty three (33), Township Twelve (12) South of Range Fourteen (14) East, such measurement to be made by means of a gauge placed in said canal, or by means of other proper measuring device. But it is understood and agreed, that in the event said party of the first part shall at any time take and divert any of such Seven Hundred and Seventy-five (775) feet of water, to which the said party of the first part has the first and prior right into its new Canal, which is constructed so that it can take water from the main canal of the said party of the first part hereto, at a point above said point of measurement, then and in that event the water so taken into said new canal shall be measured, and said party of the first part shall, in such case, receive at the point of measurement hereinabove specified, Seven Hundred and Seventy-five (775) feet of water per second, less the amount so diverted and taken into said new canal, that is to say, the amount of water so diverted and taken into such new canal, shall be deducted from the Seven Hundred and Seventy-five (775) feet of water to which said party of the first part has, under the terms of this agreement, the first and prior right.

1589 2. That whenever the canal of said party of the first part is supplied with Seven Hundred and seventy-five (775) cubic feet of water per second at the point of measurement hereinbefore referred to, then so long as that quantity is so supplied thereto, the parties of the second and third parts, as the owners of said Chowchilla

Canal, above referred to, shall have the right, jointly, to divert from said San Joaquin River through said Slough, sufficient water so that said Chowchilla Canal shall have and receive into its said Canal, at the present Headgate or Weir in said Canal and in the Slough hereinabove referred to, where it passes through the South West quarter (S. W. ¼) of Section Fourteen (14), Township (13), South of Range Fifteen (15) East, One hundred and Twenty (120) cubic feet of water per second, provided there is sufficient water flowing in said San Joaquin River to supply to said party of the first part hereto, its full Seven Hundred and seventy-five (775) cubic feet of water, and also supply or furnish said Chowchilla Canal the maximum amount of water it is entitled to take and receive through said Slough and through said gate, to-wit: One Hundred and Twenty (120) cubic feet of water per second.

In the event that there be not sufficient water flowing in said San Joaquin River to supply to said party of the first part its full Seven Hundred and Seventy-five (775) cubic feet of water, and supply to the said Chowchilla Canal One Hundred and Twenty (120) cubic feet of water, then said Chowchilla Canal shall be entitled to take and receive from said River, and from said Slough, and through said gate, only the amount of water flowing in said river after the full Seven Hundred and Seventy-five (775) cubic feet of water per second is supplied to said party of the first part at the point of measurement hereinbefore specified.

3. After the amount of water which the said party of the second part shall be entitled to take and receive into its said canal at
1590 its said Headgate or Weir is received by it, the balance of the water running in said slough above the said headgate, if any, shall belong to said party of the third part hereto. But it is understood that this agreement, neither fixes nor limits any rights of Miller & Lux, the party of the third part hereto, to the water flowing in said San Joaquin River, after the diversion therefrom of said quantities of Seven Hundred and Seventy-five (775) feet and One Hundred and twenty (120) feet herein provided for.

4. When the water in said San Joaquin River is at such low stage that the said party of the second part is not, under this agreement, entitled to receive into its said Canal sufficient water out of said One Hundred and twenty (120) feet to supply the party of the second part in said Canal with stock water, then and in that event, the said party of the second part shall be entitled to receive from the water flowing in the said San Joaquin River, and belonging to the said parties of the first part hereto, sufficient water for such stock purposes, provided there is sufficient water flowing in said San Joaquin River and in the canals of the said party of the first part to supply all of the parties having a prior right to demand and receive water from the Canals of said party of the first part, the San Joaquin and Kings River Canal and Irrigation Company, and to also supply such stock water to the said party of the second part, such stock water so furnished to said party of the second part hereto by said party of the first part, to be turned into the Canal of said party of the second part by the Superintendent of the party of the first part, and to be paid

for at the rates established for water sold by said party of the first part.

5. The agreement of said April 11, 1871, hereinbefore referred to, and to which this is supplemental, shall remain in full force and effect, except insofar as modified by this supplemental agreement:

Provided, that the water at any time flowing in said Chowchilla Canal shall be equally divided between the parties of the second and third parts by actual measurement made at the point where
1591 said party of the third part is, at that time, diverting water from said canal. If the said party of the third part desires to divert water at more than one point on said canal at the same time, then such measurement shall be made at each of such points, so that said party of the third part shall receive at the second or any subsequent point, only such proportion of the water then flowing at such point as, when added to the proportion of the water diverted by it at prior points, shall equal one-half.

6. That certain action in which the party of the first part is plaintiff and the party of the second part is defendant, number 63,006, in the Superior Court of the City and County of San Francisco, State of California, shall be dismissed without costs to either party; and the said party of the second part hereby releases the party of the first part, and the sureties upon its injunction bond in said action, from all claims or liabilities whatsoever, arising or to arise out of the granting of the injunction in said action.

In witness whereof, the said parties hereto have caused these presents to be executed by their respective presidents and secretaries under their respective corporate seals; the same being duly authorized by resolutions of the Board of Directors of said corporations respectively, duly entered upon their minutes.

[SEAL.] THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION CO.,
By HENRY MILLER, *President.*
By C. Z. MERRITT, *Secretary.*

[SEAL.] MILLER & LUX,
By HENRY MILLER, *President.*
By DAVID BROWN, *Secretary.*

[SEAL.] THE CALIFORNIA PASTORAL & AGRICULTURAL CO.,
By F. MENZIES, *President.*
JOHN CRAWFORD, *Secretary.*

1592 "EXHIBIT A."

This agreement, made and entered into this 11th day of August A. D. 1871, by and between William S. Chapman, party of the first part, and Henry Miller and Charles Lux, parties of the second part, all of the City and County of San Francisco.

Witnesseth:

That said party of the first part, for and in consideration of the sum of one dollar to him in hand paid by the said parties of the second part, the receipt of which is hereby acknowledged before the

signing and delivery of these presents, and the further consideration of the mutual promises herein contained and set forth to be done and performed by the parties hereto, does hereby covenant and agree to and with the said parties of the second part, and the said parties of the second part do hereby covenant and agree to and with the said party of the first part, that they will jointly dig and construct a canal for irrigation through lands of said parties of the second part in the County of Fresno, and State of California, the said Canal to commence at a point where a slough now makes out from the north side of the San Joaquin River, near the center of the dividing line between Sections Twenty-four (24) and Twenty-five (25) in Township Thirteen (13) South, Range Fifteen (15) East, from the Mount Diablo Base and Meridian, and thence running in a notherly direction to the north line of the most southern tier of Sections in ownship Twelve (12) South, Range Fifteen (15) East, from said Base and Meridian; which said Canal is to be Twenty-five (25) feet wide, and shall be so constructed as to carry one and one-half (1½) feet of water in depth, and it is further agreed that the Slough above mentioned may be used as a part of said Canal as far as shall be deemed advisable.

And it is further agreed by and between the parties hereto, that the said work of constructing the said canal shall be done under the direction and management of a competent engineer, to be selected by the parties hereto, and also the supervision of said parties,
1593 the said engineer to be paid for his services by the parties of the first and second parts, each party paying one-half, said work to be done in a thorough workmanlike manner, with all necessary head gates, bulkheads, flood gates, and other necessary appurtenances, at as moderate expense as may be consistent with thorough work, and the expense of said works and of the repairs thereof shall be borne equally by said parties, that is to say, one-half by said party of the first part, and the other half by said parties of the second part; it being, however, understood and agreed that the said parties of the second part shall have the right of furnishing and having their own teams, vehicles and drivers employed in the construction of their portion of said canal and works; and the value of such work so done by said teams, vehicles and drivers shall be allowed to said parties of the second part in estimating the half to be paid by them in the construction of the canal and works aforesaid; and it being further understood and agreed that said parties of the second part shall at their own expense construct and put in all the side gates and other works which may be required for taking out water from the said canal within the distance above specified.

And it is further understood and agreed that said parties of the second part and their assigns shall have the right at all times to draw from said canal, without charge, by side-gates and ditches and to use and dispose of one-half of the water flowing therein, and said party of the first part and his assigns are to have the right at all times, also without charge, to take at the northerly end of said canal, and to use and dispose of the remaining half of such water, and to carry the same further on by another canal or other canals, to be used as he may see fit, and further to enter upon and go on the

land of said parties of the second part, with men and teams, over which said canal may pass, for the purpose of repairing the said canal, at any time, doing as little damage as is possible thereby.

And it is further agreed by and between the parties hereto, that should the said canal diminish the natural over-flow which usually occurs between the 1st day of April and the 15th day of
1594 June of each year, of the San Joaquin River and its Sloughs, upon the said lands of the parties of the second part, then the said parties of the second part shall, at any time between said dates, open the gates of said canal, and, free of expense or charge to them, the said parties of the second part, shall be allowed an overflow from the said canal on said lands equal in quantity of water to that of which they may be deprived as aforesaid; and it is further covenanted and agreed by and between the parties hereto, that the said canal shall not diminish the water in any branch slough connected with the main slough aforesaid from which the said canal is constructed, from the 1st day of April to the 15th day of June in any year. Neither of these last two provisions or covenants to apply to any season or part of season when without said canal there would be no natural overflow of said river upon the lands of said parties of the second part.

And it is further covenanted and agreed that no work of any kind shall be done in the construction of said canal or anything connected therewith, which shall in any way injure the works of the San Joaquin and Kings River Canal Company.

And it is further covenanted and agreed that should said parties of the second part find it necessary in order to irrigate their lands or any portion thereof, to put a lock and dam or locks and dams in said canal, that they shall have the right to do so, not impairing the rights of said parties of the first part in so doing, nor impeding the flow of the water to be carried by said ditch to which he is entitled, and further, that a bridge shall be built over said canal, on the lands of the parties of the second part, at a point to be designated by them, at the joint expense of the parties hereto, each party paying one-half of said expense, and shall be kept in repair likewise at their joint expense.

And it is further agreed that the said parties of the second part shall not be liable in damages to said party of the first part for any injury which shall be done to the banks of said canal by the cattle of said parties of the second part.

1595 In witness whereof, the parties hereto have hereunto set their hands and seals the day and year first above written.

WM. S. CHAPMAN. [SEAL.]
MILLER & LUX. [SEAL.]
——— ———. [SEAL.]

Signed, sealed and delivered, being first duly stamped, in the presence of

GEORGE HARRIS.

Know all men by these presents: that the parties of the first part and second part respectively to the within agreement, have jointly completed the canal provided therein to be built, and have jointly extended the same, from the terminus originally proposed, to the South line of Township Eleven (11) South, Range Fifteen (15) East from the Mount Diablo Base and Meridian; that a full and complete settlement and adjustment has been had between said parties of the first and second part of the amount contributed by each to the expense of constructing said canal:—that each has now paid his share of the expense of such construction, and that the said canal, with its gates, sluices, embankments, and all the privileges and appurtenances thereto belonging, or in anywise appurtaining, is now owned in common by them from its commencement to said Township line; that is to say; one undivided half by said party of the first part, and one undivided half by said parties of the second part. The expense of keeping in repair the canal so owned in common shall be equally borne,—one-half by said party of the first part, and one-half by said parties of the second part.

Said party of the first part is to be at liberty to take out from said Canal for use upon any land owned by him, any portion of his half of the water in said canal at any point therein, not to interfere with any rights of said parties of the second part.

In testimony whereof, said parties of the first and second parts have hereunto set their hands and seals this sixteenth day of January, A. D. 1872.

WM. S. CHAPMAN. [SEAL.]
MILLER & LUX. [SEAL.]
By HENRY MILLER.

1596 Endorsements: Agreement between San Joaquin and Kings River Canal and Irrigation Company, California Pastorial & Agricultural Company, and Miller & Lux (a corporation). Dated 17th August, 1898. Copy sent to Schmitz 3/3/99. For decision of U. S. Court of Appeals as to construction of this agreement; see #8-72 & 73. Sept. 21, '08 Copy sent to Clyne. See also our letter to him 9/22/08. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Complainant's Exhibit No. 11. E. H. H., Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1597 COMPLAINANT'S EXHIBIT No. 12.

This agreement, made this 4th day of June, 1901, by and between The California Pastoral and Agricultural Company, a corporation, the party of the first part; Miller & Lux, a corporation, the party of the second part; The San Joaquin and Kings River Canal and Irrigation Company, a corporation, the party of the third part; Henry Miller, the party of the fourth part, and Thomas B. Bishop and Azro N. Lewis, as trustees of the estate of Miranda W. Lux, deceased; Henry Lux, Magdalena Holtzscherer, Dorothea Rott, Henry Roeh-

rig, Senior; Henry Roehrig, Junior; Salome Lux Wolf, Caroline Lux Michel, George Lux, Emil Lux, Lizzie Lux Pott, Lena Lux MacBride, and Henry Lux, trustee under the deed of trust made to Henry Lux and Marguerite Lux, on the 19th day of November, 1895, by Charles Henry Lux, the parties of the fifth part, witnesseth:

Whereas the said parties hereto are severally the owners of certain tracts of land situated in the counties of Fresno, Madera, Merced and Stanislaus, in the State of California, portions of which lands are riparian to the San Joaquin River and other portions of which are riparian to the Fresno River; and said parties respectively claim certain rights in and to the waters of said rivers by virtue of their said riparian ownership, and by virtue of certain appropriations of said waters;

And whereas certain differences and disputes have arisen between said parties as to their respective rights in the waters of said rivers,—certain of which disputes were settled and adjusted by a certain agreement, dated the 17th day of August, 1898, between the parties of the first, second, and third parts hereto,—and certain of which differences and disputes were not adjusted by said last mentioned agreement;

Now therefore, for the purpose of settling and adjusting all of said differences and disputes, and of finally determining and defining the rights of the said parties hereto, as between themselves, in and to the waters of said rivers, it is hereby agreed by and between the said parties as follows:

1. That certain agreement, bearing date the 17th day of August, 1898, between the parties of the first, second, and third parts hereto, with relation to the use of certain waters of the San Joaquin River through what is known as the Chowchilla Canal, is hereby in all respects ratified and confirmed.

1598 2. Subject to the provisions of said last mentioned agreement, and also subject to the provisions of that certain other agreement between the parties of the second and third parts hereto, bearing date the 18th day of May, 1899, the said party of the third part shall have the right at all times to divert from the said San Joaquin River 1350 cubic feet of water per second.

3. Subject only to the diversions provided for in said two agreements and in the second paragraph of this agreement, the said party of the second part shall at all times have the right to divert from the said San Joaquin River so much water as it may desire.

4. Subject to the provisions of paragraphs one, two, and three of this agreement, and whenever there is sufficient water in the said San Joaquin River, at the head of that certain canal known as the Blythe Canal, (which heads in said river at a point in the northeast quarter of Section 13, in Township 11 South, Range 13 East, Mount Diablo Meridian), to supply 100 cubic feet of water per second to that canal, the said party of the first part may take water through that canal for the irrigation of that certain tract of land situated in the County of Madera, State of California, and bounded and described as follows:

Beginning at a point at the intersection of the south line of Sec-

tion 12, in Township 11 South, Range 13 East, Mount Diablo Meridian, with the San Joaquin River, and running thence east to the southeast corner of the southwest quarter of Section 8, Township 11 South, Range 14 East; thence Northwesterly in a direct line to the southwest corner of the northwest quarter of Section 24, in Township 10 South, Range 13 East; thence west to the center of section 22 in said township; thence north to the center of section 15 in said township; thence northwesterly in a direct line to the northwest corner of section 33 in township 9 South, Range 13 East; thence west to the northwest corner of the northeast quarter of the northeast quarter of section 31 in said township; thence south to the San Joaquin river; thence up and along the said San Joaquin River to the place of beginning.

And it shall be the duty of the said party of the first part to take water for the irrigation of said land through said canal when-
1599 ever there is the aforesaid quantity of water in said river and the same can be advantageously used for irrigating said land, and to use its best efforts to irrigate that land from that source.

5. Whenever the said party of the first part shall be unable to irrigate said land from that source by the first day of June in any year, the said party of the second part, on demand of the party of the first part, whenever there are 2500 cubic feet of water flowing per second in said San Joaquin River at that certain gauge known as the White House Gauge, situated near the head of Lone Willow Slough, shall deliver to the party of the first part, through said Lone Willow Slough or other convenient channel, at the center of the south line of the southeast quarter of section 7, in Township 11 South, Range 14 East, as much as 100 cubic feet of water per second, (or a greater quantity at the option of the party of the second part), to complete the irrigation of the land aforesaid, but not to exceed in all a quantity equal to a constant flow of 100 cubic feet of water per second for thirty-six days in any one irrigating season.

6. If the said party of the second part shall at any time divert from said San Joaquin River, above said White House Gauge, more than 300 cubic feet of water per second, the excess so diverted above said 300 cubic feet per second shall be computed as a part of the water flowing in said river whenever necessary to make up the said quantity of 2500 cubic feet per second.

7. Whenever the said party of the first part shall have commenced to irrigate the said land through said Blythe Canal, it must complete the irrigation of all of said land within each check, if possible, before turning the water into a lower check, otherwise it shall have no claim to receive water from the party of the second part for irrigation during that season; and after it has turned the water out of any check it shall not be entitled to call on the party of the second part for any water to irrigate the land within that check.

8. The said party of the second part shall at all times be entitled to carry on to any land owned or rented by it below the lands of the party of the first part any water remaining after the above
1600 described lands of the party of the first part, and those described in paragraph nine, have been irrigated, and said party

of the second part shall have the right to construct, maintain, and use, through the lands of the party of the first part, a ditch or canal to carry water from said Lone Willow Slough, which ditch shall be located and constructed as nearly as practicable along the bottom of the depression extending through said lands of the party of the first part, and shall be so constructed and operated as not to injuriously dam or back up on the lands of the party of the first part any waters coming thereon from any source, and shall be provided with suitable stopgates at each levee of the irrigation system of the party of the first part. The party of the second part will construct and maintain two wagon bridges across said canal for the convenience of the party of the first part, one to be located at a point in the southeast quarter of the southeast quarter of Section 15, Township 10 South, Range 13 East, and the other in Section 9 of the said township and range; said bridge- to be constructed whenever their points of location have been fixed by the party of the first part. The party of the second part waives any claim for injury which may be done to the banks or gates of said canal by the cattle of the party of the first part. If, during the irrigation of the lands of the party of the first part, it becomes necessary to close the said canal, then the said party of the first part shall permit to run to the said lands of the party of the second part a quantity of water approximately equal to the quantity of water belonging to the said party of the second part then running in said canal, provided that the same does not interfere with the drainage of the lands of the party of the first part at the close of such irrigation.

In case, after the construction of said canal, it is found that the same cannot properly be operated along the bottom of said depression, then the party of the second part shall be entitled to abandon the same and to construct a canal for the aforesaid purposes through the lands of the party of the first part over a route outside of the lands described in paragraphs four and nine of this agreement; and, in that event, the party of the first part will grant said party of the second part a right of way for the same upon similar conditions to those in this paragraph specified.

1601 9. Whenever there shall be sufficient water in said San Joaquin River to supply to said Blythe Canal 325 cubic feet of water per second, and after the land above described in paragraph four has been fully irrigated, the said party of the first part, subject to the provisions of paragraphs one, two, and three of this agreement, shall have the right to take water from said river through said canal, and use the same for the purpose of irrigating that certain other tract of land belonging to said party of the first part and described as follows:

All that portion of the lands of the party of the first part lying easterly of and adjoining the lands described in paragraph four of this agreement, and lying to the westerly of that certain line beginning at the center of the south line of section 24 in Township 10 South, Range 13 East, and running thence north to the center of section 13 in said township; thence northwesterly to the center

of section 11 in said township; thence north to the north line of section 35 in township 9 North, Range 13 East.

10. The said San Joaquin River, at said White House gauge, shall be measured at least once in each year by engineers selected respectively by the parties of the first, second and third parts, in order to establish a correct reading on said gauge for that year.

11. The said parties of the first, second, fourth and fifth parts agree to construct and complete, on or before the 31st day of October, 1903, a system of checks and levees on their respective lands in Township 11 South, Ranges 14, 15, 16, and 17 East, on the Fresno River, sufficient to properly utilize at all times all the waters of said river for the irrigation of said lands; and they hereby respectively agree to commence the construction of said system on their respective lands within the present year, and each to construct, as nearly as may be, one-third of his or its part of the same in each year until the same is completed.

The system so to be constructed on the lands of the parties of the second, fourth and fifth parts shall be such that all the surplus water used in irrigating said lands, and all the drainage from such irrigation, may be returned into the said Fresno River. The system so to be constructed on the lands of the said party of the first part shall be such as, having due regard to expense of construction and
1602 economy of operation, will irrigate the said lands in the shortest time and with the least waste of water. The said party of the first part shall submit its proposed plan for such system to the party of the second part before beginning the construction of the same; and, if the said parties of the first and second parts shall differ as to whether or not such plan is reasonably adapted to accomplish the results aforesaid, that question shall be submitted to arbitration as follows: The said parties of the first and second parts shall each select a competent civil engineer, and the two engineers so selected may, if they do not agree, select a third engineer, and the decision of a majority of such engineers shall be binding and conclusive upon each of the parties hereto. Should the decision of such engineers be that the plan so proposed by the party of the first part is not adapted to secure the results aforesaid, then they shall themselves prepare a suitable plan for that purpose, which plan shall be followed by the said party of the first part in the construction of its said system. The compensation of such engineers shall be paid by the parties in such proportions as the arbitrators may determine.

From and after the completion of said system of checks and levees on the lands of the parties of the fourth and fifth parts, the said parties of the fourth and fifth parts shall have the right, in common as between themselves, to divert from the said Fresno River at all times such quantity of water, not exceeding 500 cubic feet per second, as shall be necessary to irrigate the following described lands, to-wit:

The south half of Section 1; all of sections 8, 9, 10, 11 and 12; the west half of the northwest quarter of section 13; all of sections 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35 and 36, in Township 11 South, Range 16 East; also all of sections

17, 19, and 20 in Township 11 South, Range 17 East, and all of section 18 in said township which lies north of the Fresno river.

Provided, however, that in irrigating said lands all of the surplus water used in such irrigation, and the drainage from such irrigation, shall be returned into the main channel of the Fresno River before said channel enters the lands of the party of the first part in Section 18, Township 11 South, Range 16 East.

12. Subject to the provisions of paragraph eleven of this
1603 agreement, the said party of the first part shall have the right, at all times from and after the completion of said system of checks and levees, to use the waters of the said Fresno River for the irrigation of the following described tract of land, to-wit:

In Township 11 South, Range 14 East; the south half of the southeast quarter of section 8; the south half of the south half of section 9; the south half of the south half of section 10; the south half of the south half of section 11; the south half of the south half of section 12; all of sections 13, 14, 15 and 16; the east half of section 17; the northeast quarter of section 20; the north half of section 21; the north half and the north half of the south half of section 22; the north half of section 23; and the north half of section 24; In Township 11 South, Range 15 East; the south half of Section 7; the south half and the south half of the north half of section 8; the south half and the south half of the north half of section 9; the south half of section 10; the south half of Section 11; the south half and the south half of the north half of section 12 and all of sections 13, 14, 15, 16, 17, 18, 19, 20 and 21; In Township 11 South, Range 16 East; the south half of section 7; and all of section 18.

13. Whenever in any one year, the lands described in paragraph twelve of this agreement shall have been completely irrigated, the said parties of the second, fourth and fifth parts shall thereafter have the right, in common as between themselves, to divert from the said Fresno River, at any point they may desire, any water flowing in said river, and to use the same for the irrigation of any lands they may desire; but until then they shall divert no water from the Fresno River through Cottonwood Creek, or otherwise above their lands described in paragraph eleven hereof.

14. From the date of this agreement, and pending the construction and completion of said system of checks and levees, the said parties of the first, second, fourth and fifth parts shall have the rights conferred upon them respectively by paragraphs eleven, twelve and thirteen of this agreement; provided, however, that during said period the said last described lands of the party of the first part shall be deemed to have been completely irrigated whenever the water shall reach that certain point on the south line of section eleven in Township 11 South, Range 15 East, where
1604 said line intersects the easterly bank of that certain slough which crosses said line a little to the westward of the center of the south line of said section.

15. If either or any of said parties of the first, second, fourth, and fifth parts, or any corporation controlled by them or either of them, shall hereafter become the owners of any portion of those certain lands in Township 11 South, Ranges 15 and 16 East, now

standing of record in the name of Susan A. Thornton, or of those certain lands in Township 11 South, Ranges 16 and 17 East, now standing of record in the name of Pedro Altube, which can be irrigated from the said Fresno River, returning all the surplus water and drainage back to said river, then the provisions of paragraphs eleven, twelve, thirteen and fourteen of this agreement shall apply to the lands so acquired.

16. If hereafter any person shall attempt to divert any water from either of said rivers to the prejudice of the parties hereto, the expense of the litigation caused thereby shall be ratably contributed by the parties hereto in proportion to the amounts of land severally irrigated by them from such river.

17. Each and every of the stipulations and agreements herein contained shall bind and inure to the benefit of the successors, heirs, and assigns of each and every of the parties hereto, in the same manner as if they had therein been expressly named.

In witness whereof the said parties of the first, second, and third parts have caused their respective corporate seals to be hereunto affixed, and these presents to be subscribed by their respective presidents and secretaries; and said parties of the fourth and fifth
1605 parts have hereunto set their hands and seals; all on the day and year first above written.

CALIFORNIA PASTORAL & AGRICULTURAL CO.,
By ISAAC BIRD, *President.*
[SEAL.] R. H. MENZIES, *Secretary.*

MILLER & LUX,
By HENRY MILLER, *President.*
[SEAL.] DAVID BROWN, *Secretary.*

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION CO.,
By HENRY MILLER, *President.*
[SEAL.] C. Z. MERRITT, *Secretary.*

HENRY MILLER,
THOS. B. BISHOP &
AZRO N. LEWIS,
Trustees of the Estate of Miranda W. Lux, Deceased.

HENRY LUX.
HENRY LUX, *Trustee.*
LENA LUX MacBRIDE.
LIZZIE LUX POTT.
MAGDALENA HOLTZSCHERER,
By Her Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.

DOROTHEA ROTT,
By Her Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.

HENRY ROEHRIG, SENIOR,
By His Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.

HENRY ROEHRIG, JUNIOR,
By His Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.
SALOME LUX WOLF,
By Her Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.
CAROLINE LUX MICHEL,
By Her Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.
GEORGE LUX,
By His Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.
1606 EMIL LUX,
By His Attorney in Fact, ADOLPH ROSENTHAL,
Imperial German Consul General at San Francisco.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this 8th day of June in the year One Thousand Nine Hundred and One, before me, John T. Williams, a Notary Public in and for the said City and County of San Francisco, State of California, residing therein, duly commissioned and sworn, personally appeared Thomas B. Bishop and Azro N. Lewis, trustees of the Estate of Miranda W. Lux, deceased, known to me to be the persons whose names are subscribed to, and who executed, the within instrument and they acknowledge that they executed the same as such trustees.

In witness whereof, I have hereunto set my hand and affixed my Official Seal at my office in said City and County of San Francisco, the day and year in this certificate first above written.

[NOTARIAL SEAL.] JOHN T. WILLIAMS,
Notary Public in and for the City and County of San Francisco, State of California.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this fifth day of June, A. D. One Thousand Nine Hundred and One before me, Alfred A. Enquist, a Notary Public in and for the said City and County, duly commissioned and sworn, personally appeared Isaac Bird, President and R. H. Menzies, Secretary, known to me to be the President and Secretary of the California Pastoral & Agricultural Co., the corporation that executed the foregoing instrument, and acknowledged to me that such corporation executed the same.

1607 In witness whereof, I have hereunto set my hand and affixed my official Seal, the day and year in this certificate above written.

[NOTARIAL SEAL.] ALFRED A. ENQUIST,
Notary Public in and for the City and County of San Francisco, State of California.

For Corporation.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On the Fifth day of June A. D. Nineteen Hundred and One, before me, James L. King, a Notary Public in and for said City and County, residing therein, duly commissioned and qualified, personally appeared Henry Miller, known to me to be the President, and David Brown, known to me to be the Secretary of Miller & Lux, the Corporation described in and that executed the annexed instrument, and they duly acknowledged to me that such Corporation executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal at my office in the City and County of San Francisco the day and year last above written.

[NOTARIAL SEAL.] JAMES L. KING,
Notary Public in and for the City and County of San Francisco, State of California.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On the Fifth day of June, A. D. Nineteen Hundred and One, before me, James L. King, a Notary Public in and for said City and County, residing therein, duly commissioned and qualified, personally appeared Henry Miller, known to me to be the President, and C. Z. Merritt, known to me to be the Secretary of the San Joaquin and Kings River Canal and Irrigation Company, the corporation described in and that executed the annexed instru-
1608 ment, and they duly acknowledged to me that such Corporation executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal at my office in the City and County of San Francisco the day and year last above written.

[NOTARIAL SEAL.] JAMES L. KING,
Notary Public in and for the City and County of San Francisco, State of California.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this fifth day of June A. D. 1901 Before me, James L. King, a Notary Public in and for said City and County, residing therein, duly commissioned and sworn, personally appeared Henry Miller known to me to be the person described in — whose name is subscribed to, and who executed the within instrument, and acknowledged to me that he executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal, in the City and County of San Francisco, the day and year last above written.

[NOTARIAL SEAL.] JAMES L. KING,
Notary Public in and for the City and County of San Francisco, State of California.

STATE OF CALIFORNIA,
County of Santa Clara, ss:

On this 22nd day of June A. D. 1901, before me, Chas. E. Howes, a Notary Public in and for the said County of Santa Clara, residing therein, duly commissioned and sworn, personally appeared Adolph Rosenthal, known to me to be the person described in and whose name is subscribed to the within instrument as the Imperial German Consul General at San Francisco and as the Attorney-in-fact of Magdalena Holtzscherer, Dorethea Rott, Henry
1609 Roehrig, Senior, Henry Roehrig, Junior, Salome Lux Wolf, Caroline Lux Michel, George Lux and Emil Lux and the said Adolph Rosenthal acknowledged to me that he subscribed the names of Magdalena Holtzscherer, Dorothea Rott, Henry Roehrig, Senior, Henry Roehrig, Junior, Salome Lux Wolf, Caroline Lux Michel, George Lux and Emil Lux thereunto as principals, and his own name thereunto as attorney in fact of the aforesaid principals. In Witness Whereof I have hereunto set my hand and affixed my official seal at my office in the said County of Santa Clara the day and year first above written.

[NOTARIAL SEAL.] CHAS. E. HOWES,
Notary Public in and for Santa Clara County, State of California.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On the Tenth day of June in the year One Thousand Nine Hundred and One (1901) before me, Eugene W. Levy, a Notary Public in and for the said City and County, residing therein, duly commissioned and sworn, personally appeared Henry Lux known to me to be the person described in, whose name is subscribed to and who executed the annexed instrument, and acknowledged that he executed the same, individually and as Trustee.

In witness whereof, I have hereunto set my hand and affixed my official seal, at my office in the City and County of San Francisco, the day and year in this certificate first above written.

[NOTARIAL SEAL.] EUGENE W. LEVY,
Notary Public in and for the City and County of San Francisco, State of California.

Mills Building, Fifth Floor, Rooms 24 and 25, Telephone No. Main 5747.

1610 STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this Eleventh day of June in the year one thousand nine hundred and one, before me Oliver Dibble, a Notary Public in and for said San Francisco City and County, residing therein, duly commissioned and sworn, personally appeared Lena Lux MacBride, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that she executed the same.

In witness whereof, I have hereunto set my hand and affixed my Official Seal, at my office in the City and County of San Francisco in the day and year in this Certificate first above written.

[NOTARIAL SEAL.] OLIVER DIBBLE.
Notary Public in and for the said San Francisco City and County, State of California.

STATE OF CALIFORNIA,
County of Santa Clara, ss:

On this 13th day of June, in the year one thousand nine hundred one before J. Hinman, a Notary Public in and for the said County of Santa Clara, State of California, residing therein, duly commissioned and sworn, personally appeared Lizzie Lux Pott known to me to be the person described in, whose name is subscribed to, and who executed the within instrument, and acknowledged to me that the executed the same.

Witness my hand and official seal, at my office in said County of Santa Clara, the day and year first above written.

[NOTARIAL SEAL.] J. HINMAN,
Notary Public in and for Santa Clara County, State of California.

(Endorsed:) Filed May 14, 1910. Southard Hoffman, 1611 Clerk, By J. A. Schaertzer, Deputy Clerk. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 12. E. H. H. Master etc.

1612 COMPLAINANT'S EXHIBIT No. 13.

Statement of Cost of Construction of Canal and Works of San Joaquin & Kings River Canal & Irrigation Company to November 25, 1895.

Paid San Joaquin & Kings River Canal Company cost of works to date of purchase.....	$119,335.29
" John Bensley et al. in stock (15,000 shares at $7,50) for remainder of property of old Company	112,500.00
" by this Company for construction performed by itself from date of purchase from old Company to February 28, 1885.....	739,277.84
" by this company for construction from March 1,1885, to November 25, 1895.....	84,685.51
Total	$1,055,798.64

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Compl't's Exhibit No. 13. E. H. Hecock, Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1613 COMPLAINANT'S EXHIBIT No. 14.

Statement of Cost of Construction of San Joaquin Canal to December 31, 1873, and Betterments Since Constructed Therein to Nov. 25, 1907, with Cost of Construction of Parallels and Extensions. This Includes Only Items Actually Charged to Construction and Which Can Be Identified from the Accounts as Properly Belonging Thereto, and Does Not Include any Charges for Construction Which Cannot Be Positively so Identified from the Accounts Alone.

Paid S. J. & K. R. C. Co., cost of works to date of purchase				$119,335.29
" John Bensley et al. in stock (15,000 shares at $7.50) for water rights, &c.				112,500.00
Ledger A, 19. Cost of construction by this Company to Dec. 31, 1873, as per ledger account		264,638.47		
	Less work on "Upper Canal" as per Exhibit 7	9,026.23		
				255,612.24
Journal 126. Salary of M. L. Stangroom from Dec. 24, 1873, to Dec. 31, 1873				100.00
" 127. Construction in 1873, as per Superintendent's report of January 16, 1874		19,775.19		
	Less S. H. Marriner	45.15		
	Travelling expenses	49.00	94.15	
				19,681.04
" 131. Construction in 1873, as per Superintendent Stangroom's report of Jan. 31, 1874, item of J. E. Mason				98.15
" 135. Paid to Miller & Lux on construction up to Dec. 31, 1873, as per Superintendent Chandos' Report of Jan. 31, 1874				8,411.97
Ledger A. 200. Salary of M. L. Stangroom from Sept. 1, 1871, to Dec. 24, 1873, transferred from salary account				8,720.00
Journal 619. Proportion charged to construction of expenses of Engineer's office				5,000.00
Ledger B, 40. Telegraph account				10,258.16
Journal 404. Proportion of general Management account, transferred to construction account				10,485.12
				550,201.97

1614

Brought Forward							$550,201.97
Ledger A,	246.	Cost of Extension	"A"				122,777.58
" "	251.	" "	"	"B"			15,924.56
" B,	26.	" "	Las Garzas Waste Ditch				1,800.00
" "	25.	" "	Parallel No. 1				9,852.27
" "	38.	" "	" "	2			26,053.34
" "	35.	" "	" "	3			11,220.96
		Cost of Enlarging Parallel No. 1 as per Secretary's report of receipts and disbursements for year ending Nov. 25, 1885, and President's and Superintendent's reports of December, 1885					13,525.58
		Cost of Enlarging Main Canal as per above reports					15,816.76
Ledger A,	291.						
" B,	79.	Balance of Wauchope Ditcher and Grader account, which should have been charged to construction					6,505.09
Ledger	15.	Cost of Barn at Dam					245.60
" "	"	" "	Firebaugh Stop & Waste Gate		1,480.74		
					440.63		
							1,921.37
" "	"	" "	Enlargement of	1889/90.			20,527.48
" "	"	" "	Fences		86.85		
					161.72		
							248.57
" "	"	" "	New Structures				1,808.53
							$798,429.61

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 14. E. H. H., Master Etc. Filed May 14, 1910 Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1615 COMPLAINANT'S EXHIBIT No. 15.

Statement of Cost of Construction of San Joaquin Canal to December 31, 1873, and Betterments Since Constructed Therein to Nov. 25, 1907, with Cost of Construction of Parallels and Extensions. This Includes Only Items Actually Charged to Construction and Which Can Be Identified from the Accounts as Properly Belonging Thereto, and Does Not Include any Charges for Construction Which Cannot Be Positively so Identified from the Accounts Alone.

Paid S. J. & K. R. C. Co., cost of works to date of purchase				$119,335.29
" John Bensley et al. in stock (15,000 shares at $7.50) for water rights, etc.				112,500.00
Ledger A, 19.	Cost of construction by this Company to Dec. 31, 1873, as per ledger account	264,638.47		
	Less Work on "Upper Canal as per Exhibit 7	9,026.23		
				255,612.24
Journal 126.	Salary of M. L. Stangroom from Dec. 24, 1873, to Dec. 31, 1873			100.00
" 127.	Construction in 1873, as per Superintendent's report of January 16, 1874	$19,775.19		
	Less S. H. Marriner	45.15		
	Traveling expenses	49.00	94.15	
				19,681.04
" 131.	Construction in 1873, as per Superintendent Stangroom's report of Jan. 31, 1874, item of J. E. Mason			98.15
" 135.	Paid to Miller & Lux on construction up to Dec. 31, 1873, as per Superintendent Chandos' report of Jan. 31, 1874			8,411.97
Ledger A, 200.	Salary of M. L. Stangroom from Sept. 1, 1871, to Dec. 24, 1873, transferred from Salary account			8,720.00
Journal 619.	Proportion charged to construction of expenses of Engineer's office			5,000.00
Ledger B, 40.	Telegraph account			10,258.16
Journal 404.	Proportion of general management account, transferred to construction account			10,485.12
Carried Forward				550,201.97

1616

Brought Forward				$550,201.97
Ledger A, 246.	Cost of Extension "A"			122,777.58
" " 251.	" " " "B"			15,924.56
" B, 26.	" " Las Garzas Waste Ditch			1,800.00
" " 25.	" " Parallel No. 1			9,852.27
" " 38.	" " " " 2			26,053.34
" " 35.	" " " " 3			11,220.96
	Cost of Enlarging Parallel No. 1 as per Secretary's report of receipts and disbursements for year ending Nov. 25, 1885, and President's and Superintendent's reports of December, 1885			13,525.58
	Cost of Enlarging Main Canal as per above reports			15,816.76
Ledger A, 291. " B, 79.	Balance of Wauchope Ditcher and Grader account, which should have been charged to construction			6,505.04
Ledger 15.	Cost of Barn at Dam			245.60
" " " " "	Firebaugh Stop & Waste Gate	1,480.74 440.63		
				1,921.37
" " " " "	Enlargement of 1889/90			20,527.48
" " " " "	Fences	86.85 161.72		
				248.57
" " " " "	New Structures			1,808.53
Carried Forward				798,429.61

1617

Brought Forward				798,429.61
L. B. 15.	Central Paint Pipe Box of 1900	7		2,082.01
" " 332.	Outside Canal 1896–8	2	{	437.74
			}	85,877.82
" " 389.	Dos Palos Colony Canal—inch extension of 1900	1	{	280.71
			}	26,538.36
" " 395.	San Joaquin River Weir, 1900-1 & 1903	3		28,988.28
" " 400.	Dredge & Tenders	6		10,475.69
" " 401.	Outside Canal Extension 1902-3	4		63,415.27
" " 432.	Double Canal Syphon	8		1,944.63
" " 432.	Outside Canal Stopgates 1904	5		230.17
" " 433.	Measuring Boxes 1904	9		1,064.31
				1,019,763.97

Section Houses 1905:

Dos Palos	1,112.07	
Las Garzas	662.62	
Quinto	784.91	
		2,559.60
Crow Creek & Orestimba:		
Ditches & Weirs		5,062.64
Sundry Betterments		3,240 65
Measuring Boxes 1905-7		12,313.19
		1,042,940.05

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 15. E. H. H. Master. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1618 COMPLAINANT'S EXHIBIT No. 16.

Profit & Loss a/c San Joaquin & Kings River Canal & Irrigation Company, Incorporated, Year Ending June 30th, 1908.

Maintenance & General Administration:

Canal Cleaning		15,760.44
Damage Claims		192.28
Dredge Operating:		
Expense	459.35	
Depreciation	850.00	
		1,309.35
Expense General		2,034.98
" Automobile		1,343.29
" S. F. Office		440.64
Horses & Feed		3,548.02
Household Furniture		233.48
Instruments & Office Fixtures		143.40
Labor		11,034.05

Legal Expense:

Cal. P. & A. Co. v. M. & L. Canal Co.	½	886.50
Miller & Lux et al. v. Stevinson Cl. / Turner Estate v. East Side..	⅔	6,911.10
Canal Co. et al v. Enterprise.	½	5.53
" " " " v. Fresno F. & I. Co.	½	1,309.05
Turner Estate v. Enterprise..	½	274.25

Canal Co. v. Borland	½	571.86		
Eastwood & North Fork Agreements	¾	3,378.38		
Stevinson v. Canal Co.		350.00		
Water Rate Contest		4,064.80		
Collecting suits against debtors, recorders' fees, reporting, etc.		656.07		
			18,407.54	
Lumber & Piles			822.08	
Rent, S. G. Office			900.00	
Firebaugh Weir			1,537.57	
Irrecoverable accounts			378.29	
Repairs to Headworks			1,574.86	
Repainting Section Houses			597.20	
Resurveying and Mapping			2,373.49	
Salaries			6,929.49	
Subsistence			4,276.22	
San Luis Outside Waste Gate			407.41	
Taxes			8,319.44	
Telephone Maintenance			282.17	
Tools & Machinery			21.93	
Vehicles & Harness			571.16	
Wood			148.50	
Profits:				
Interest & Discount			.....	163.48
Rent			.....	751.50
Water			.....	108,324.16
Total Profit for Year			25,751.86	
			109,239.14	109,239.14

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 16. E. H. Ii. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1619 COMPLAINANT'S EXHIBIT No. 18.

This agreement, made and entered into this 20th day of October, 1908, by and between The California Pastoral and Agricultural Company, Limited, a corporation organized under the laws of the Kingdom of Great Britain and Ireland, party of the first part, Miller & Lux, Incorporated, a corporation organized under the laws of the State of Nevada, the party of the second part, The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, a corporation organized under the laws of the State of Nevada, party of the third part, and Borland Land Company, a corporation organized

under the laws of the State of California, the party of the fourth part, Witnesseth:

Whereas, the party of the fourth part is the owner and in possession of all those certain lots, pieces and parcels of land situate, lying and being in the County of Fresno, State of California, and bounded and more particularly described as follows, to-wit:

All of Section Twenty Five (25) in Township Fourteen (14) South, Range Fourteen (14) East, Mount Diablo Base and Meridian; all of Sections Twenty-one (21), Twenty-six (26), Twenty-seven (27), Twenty-eight (28), Twenty-nine (29), Thirty (30), Thirty-one (31), Thirty-Two (32), Thirty-three (33), Thirty-four (34) and Thirty-five (35), and the Northwest quarter of Section Thirty-six (36), and all those portions of Sections Twenty-two (22), Twenty-three (23) and Twenty-four (24), lying South and West of Fresno and Kings River Slough, and all that portion of Section Twenty-five (25) lying South and West of said Fresno or Kings River Slough and North and West of Mud Slough, all in Township Fourteen (14) South, Range Fifteen (15) East, Mount
1620 Diablo Base and Meridian; all of Section Ten (10); the South half, South half of Northwest quarter, the Northeast quarter of Northwest quarter and Southwest quarter of Northeast quarter of Section Fourteen (14); Southwest quarter, South half of Northwest quarter, Northwest quarter of Northwest quarter, South half of Northwest quarter, Northwest quarter of Northwest quarter, South half of Southeast quarter, and Northwest quarter of Southeast quarter of Section Twenty-four (24), all in Township Fifteen (15) South, Range Fifteen (15) East, Mount Diablo Base and Meridian; and all of Sections Fourteen (14) and Twenty Four (24) in Township Sixteen (16) South, Range Sixteen (16) East, Mount Diablo Base and Meridian, and

Whereas, the party of the fourth part and its predecessors in interest have heretofore pumped from Fresno Slough waters of the San Joaquin River therein found, and have used the waters so pumped for the irrigation of the lands hereinbefore described and the party of the fourth part claims the right so to pump and use such water, and claims to have acquired the right to divert from said slough at least sixty cubic feet of water of the San Joaquin River flowing in said slough per second, and

Whereas, the party of the first part is, and for many years has been the owner of certain lands riparian to, and bordering upon the San Joaquin River below the point where the said Fresno Slough and the main channel of the said San Joaquin River connect, and as such owner of such riparian lands has denied and denies the right of the party of the fourth part to pump or otherwise use the waters of said San Joaquin River flowing in said slough, and has instituted and is now maintaining in the Circuit Court of the United States for the Southern District of California, Northern Division, a
1621 suit in equity against Agnes Borland, as Executrix of the last will and testament of Archibald Borland, deceased, and others, the predecessors in interest of the party of the fourth part

to enjoin them from so pumping or using said waters, which suit is still pending and undetermined, and

Whereas, the party of the second part is, and it and its predecessors in interest for many years have been the owners of certain lands riparian to and bordering upon the San Joaquin River below the point where the said Fresno Slough and the main channel of the said San Joaquin River connect, and as such owner of such riparian land has denied and denies the right of the party of the fourth part to pump or otherwise use the waters of said San Joaquin River flowing in said slough, and

Whereas, The party of the third part is, and for many years past it and its predecessors in interest have been the owners of a certain canal taking water from the San Joaquin River below the point where the said Fresno Slough and the main channel of the said San Joaquin River connect, and it and its predecessors in interest have been the owners of the right to divert water from the said river into the said canal, and use the same, and as such owner of such canal, and water right has denied and denies the right of the party of the fourth part to pump, or otherwise use the waters of said San Joaquin River flowing in said slough, and

Whereas, there is now pending in the Superior Court of the County of Fresno, State of California, an action brought by the parties of the second and third parts against the predecessors in interest of the party of the fourth part to enjoin them from so pumping, or using said waters, which suit is still pending and undetermined, and

1622 Whereas, the predecessors in interest of the parties of the first, second and third part- hereto respectively in the lands and water rights hereinbefore referred to have heretofore, and under date of the 17th day of August, 1898, and under date of the 4th day of June, 1901, entered into two certain agreements in writing relating to the respective rights of the said parties to divert, and use the waters of the San Joaquin River, and other matters, and

Whereas, the parties hereto are desirous of adjusting and settling the controversies between the parties of the first, second and third part- on the one hand, and the party of the fourth part on the other hand, in respect to the diversion and use by the party of the fourth part on the lands of the party of the fourth part hereinbefore described of the waters of the said San Joaquin River flowing in said Fresno Slough;

Now therefore, in consideration of the premises, and of the conditions and covenants of this agreement, the parties hereto agree as follows, to-wit:

1. It is understood that the agreement of each party hereto is the consideration for all of the agreements of each of the other parties, and each party hereto shall be permitted to avail itself of all of the provisions of this agreement as against each of the other parties.

2. The party of the fourth part, subject to all of the provisions of this agreement, and whenever there is flowing in the San Joaquin River at the head of Lone Willow Slough on or near Section Twenty-five (25), Township Thirteen (13) South, Range Fifteen (15) East,

Mount Diablo Base and Meridian, twenty-five hundred (2500) cubic feet of water per second, or any amount of water in excess thereof, shall be permitted so far as the parties of the first, second and
1623 third part- hereto are concerned to divert from said Fresno Slough, and the waters then therein found, sufficient water of the San Joaquin River flowing therein to irrigate the lands hereinbefore described, for the watering of stock and for domestic use thereon, and to use the same for said purposes but for no other purpose, and the parties of the first, second and third part- hereto agree that they will not, and that no one of them will interfere with such diversion, or use of said water, or seek to prevent, enjoin or restrain the same.

3. The diversion or use of the waters of the San Joaquin River by any one of the parties of the first, second and third part- at any point on the said river shall not be construed as a prevention or interference by such party with the diversion or use by the party of the fourth part of the waters of the San Joaquin River flowing in said Fresno Slough as permitted in the preceding paragraph.

4. It is understood that the parties of the first, second and third part- hereto do not hereby grant, or secure to the said party of the fourth part any right so to divert or use the said waters and do not agree to protect the party of the fourth part in the enjoyment thereof, nor shall any of the parties hereto ever assert or claim either against any of the parties hereto, or as against any other person using or claiming the right to use the waters of the said river, that the party of the fourth part has succeeded to or acquired any of the rights of the parties of the first, second or third part, or any of them, in or to the waters of the said river. It is understood that the parties of the first, second and third part- retain, and each of them retains unimpaired by this agreement, their respective rights in and to the waters of the said river, and may at all times assert and enjoy
1624 the said rights, subject only as regards the party of the fourth part hereto to the agreement herein contained not to interfere with the diversion, and use by the party of the fourth part of the waters of the San Joaquin River found in the said Fresno Slough in the manner, and at the times herein provided for.

5. The party of the fourth part agrees that it will not, unless by virtue of some right hereafter acquired and not now existing, divert any of the waters of the San Joaquin River at any time found in the said Fresno Slough except as in Clause 2 hereof expressly permitted, and that it will not, unless by virtue of some right hereafter acquired and not now existing, at any time divert at any point any of the waters of the San Joaquin River or any waters found or flowing in the bed or channel of the San Joaquin River except as such diversion may result as a necessary consequence from the diversion of the waters of the said San Joaquin River in the said Fresno Slough as in clause 2 hereof expressly permitted; and that it will not hereafter, as against any of the parties hereto, claim, assert or exercise any right in the waters of the San Joaquin River whether found in the said Fresno Slough or elsewhere based on its ownership of the said lands, or on any use of the said waters

on the said lands heretofore made by it or its predecessors in interest except as provided in this agreement, and all its rights in the said waters as against any of the parties hereto shall be based on this agreement and on this agreement alone.

6. It is agreed and understood that the remedy at law in damages for a breach by the party of the fourth part of clause 5 of this agreement, or of any covenant therein contained would be inadequate, and that compliance by the party of the fourth part with all the covenants of the said clause may be enforced by injunction.

1625 7. By "the waters of the San Joaquin River in Fresno Slough" as referred to in this agreement is meant the water which has flowed into said slough from the main channel of the San Joaquin River and this agreement shall not affect any rights which the party of the fourth part may have to the water flowing in said slough from Kings River and other streams to the south.

8. This agreement shall be binding upon and inure to the benefit of the successors in interest of the respective parties hereto.

9. Upon the execution of this agreement the suits hereinbefore mentioned shall be dismissed without cost to any party hereto.

10. The party of the fourth part hereby transfers, conveys and sets over unto the San Joaquin & Kings River Canal & Irrigation Company incorporated, the party of the third part, any right which at the time of the execution of this agreement the party of the fourth part may have to divert the water of the San Joaquin River flowing in Fresno Slough at all times when there is less water flowing in said San Joaquin River than twenty-five hundred (2500) cubic feet per second at the head of Lone Willow Slough above mentioned, and the said party of the third part may so far as the fourth party is concerned change the point of diversion, or the manner of diversion of said water and may divert the same at any point upon the San Joaquin River and in any manner it desires.

11. The said party of the third part agrees to furnish to the party of the fourth part, without charge, sufficient water to irrigate said lands at any time the said party of the fourth part desires to irrigate the same, when it is unable to otherwise irrigate the same under the provisions of this agreement, and when the third party has

1626 water not required by other consumers, and at all other times, at the regular rate fixed by the party of the third part or by law for furnishing water to the inhabitants of the County of Fresno, but the third party shall not be required to pay any of the expense of conveying the water to said land.

12. The said party of the third part agrees with the parties of the first and second parts that it shall not be deemed to have acquired any rights in the waters of said River, or any right to divert the same by virtue of anything contained in, or granted to it by, this agreement, in addition to the rights heretofore recognized by the provisions of the aforesaid agreements of August 17th, 1898, and June 4th, 1901, and the said last mentioned agreements shall hereafter as heretofore determine and be the measure of the rights of the party of the third part in the waters of the said river as against the parties of the first and second parts.

13. It is understood that the party of the fourth part does not intend by these presents to convey to the said party of the third part any right acquired by the party of the fourth part to divert said water when there is more than twenty-five hundred cubic feet of water in said river at Lone Willow Slough above referred to, and if at any time it should be held that said party of the fourth part has no right to divide its appropriation and to convey to the party of the third part a part thereof, as above provided, this shall in no way affect the right of the party of the fourth part to divert said water as in this agreement provided when there is more than twenty-five hundred cubic feet per second flowing in said river as aforesaid.

In witness Whereof, the parties hereto have caused these presents to be executed in quadruplicate the day and year first hereinabove written.

1627 THE CALIFORNIA PASTORAL AND AGRICULTURAL COMPANY, LIMITED.

[SEAL.] By ISAAC BIRD,
Its Attorney in Fact.

MILLER & LUX, INCORPORATED.

[SEAL.] By J. LEROY NICKEL,
Vice President.

By DAVID BROWN, *Secretary.*

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED.

[SEAL.] By J. LEROY NICKEL,
Vice President.

[SEAL.] By C. Z. MERRITT, *Secretary.*

BORLAND LAND COMPANY,

[SEAL.] By W. S. MITCHELL, *President*

[SEAL.] By HUGH T. GOWER, *Secretary.*

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this twenty-first day of October, in the year one thousand nine hundred and eight, before me, James Mason, a Notary Public in and for the said City and County, residing therein, duly commissioned and sworn, personally appeared J. Leroy Nickel and David Brown, known to me to be the Vice-President and Secretary respectively of Miller and Lux, Incorporated, one of the corporations described in and that executed the within instrument, and also known to me to be the persons who executed it on behalf of
1628 the Corporation therein named, and they acknowledged to me that such Corporation executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, at my office, in the City and County of San Francisco, the day and year in this Certificate first above written.

[SEAL.] JAMES MASON,
Notary Public in and for the City and County of San Francisco, State of California.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this twenty-first day of October, in the year one thousand nine hundred and eight, before me, James Mason, a Notary Public in and for the said City and County, residing therein, duly commissioned and sworn, personally appeared W. S. Mitchell and Hugh T. Gower known to me to be the President and Secretary respectively of Borland Land Company, one of the Corporations described in and that executed the within instrument, and also known to me to be the persons who executed it on behalf of the Corporation therein named, and they acknowledged to me that such Corporation executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, at my office, in the City and County of San Francisco, the day and year in this Certificate first above written.

[SEAL.] JAMES MASON,
Notary Public in and for the City and County of San Francisco, State of California.

STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this twenty-first day of October, in the year one thousand nine hundred and eight, before me, James Mason, a Notary
1629 Public in and for the said City and County, residing therein, duly commissioned and sworn, personally appeared J. Leroy Nickel and C. Z. Merritt, known to me to be the Vice-President and Secretary respectively of The San Joaquin and Kings River Canal and Irrigation Company, incorporated, one of the Corporations described in and that executed the within instrument, and also known to me to be the persons who executed it on behalf of the Corporation therein named, and they acknowledged to me that such Corporation executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, at my office, in the City and County of San Francisco, the day and year in this Certificate first above written.

[SEAL.] JAMES MASON,
Notary Public in and for the City and County of San Francisco, State of California.

(Endorsed:) Agreement Between The California Pastoral & Agricultural Company, Limited, et al. and Borland Land Company, Dated October 20, 1908. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl'ts Exhibit No. 18. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1630 COMPL'T'S EXHIBIT 17 FOR IDENTIFICATION.

Inventory of S. J. & K. R. C. & I. Co., Inc., November 15th, 1907.

122	Telephone Expense	176.86
54	Auto Expense	657.40
63	Instruments & Office Furniture	346.
55	Horses & Feed	703.15
87	Lumber & Piles	832.69
162	Wood account	96.
163	Vehicles & Harness	2,419.35
50	General Expense	601.70
60	Household Furniture	849.15
113	Subsistence	728.94
129	Tools & Machinery	1,519.60
		8,930.84

1631 *Inventory of S. J. & K. R. C. & I. Co., Inc., November 15, '07.*

Telephone Expense.

1	Coil Wire 100 lb. @ .04¢	4.
12	Phones (Standard) @ 8.50	102.
8	" old @ 4.00	32.
60	" Brackets @ 7¢	4.20
2	" Climbers @ 2.50	5.00
2	" Poles 6/6 24 144 @ 35	5.04
15 lb.	" Wire @. 04	.60
2	Wire stretchers & Pullers @ 2.50	5.00
1	Phone instrument desk 13.50	13.50
12	" Cords @ 40¢	4.80
3	dz. Porcelain Insulators @ 2¢	.72
		146.86

Auto Expense.

1	Auto	600.
2	Extra Tires	45.
20	Gals. Lubricating Oil	11.
5	" Oil	1.40
		657.40

Instruments and Office Furniture.

1	Safe	20.
1	Transit	50.
2	Levels	100.
4	Rain Gauges	10.
1	Rod	5.
2	Chains 1—5.00 1—7.50	12.50
2	Current Meters	120.

1	Revolvers		10.
1	Ammiter		7.50
1	Steel Tape		10.
1	Stop Watch		1.00
			346.00

1632 Horses & Feed.

28	Curry Combs	.25	7.
28	Horse Brushes	.30	8.40
6	Water Buckets	.50	3.
43	Tons Hay	8.00	344.
62	Sax R. Barley 5200 lb. @	1.55	80.60
3	Horses	75.00	225.00
40	" Shoes	.03½	1.40
5	Stable Brooms	.75	3.75
60	lanterns	.50	30.00
			703.15

Lumber & Piles.

4	Posts, 25	1.
55	Half Posts, 16	8.80
7	Piles 26 182 lineal feet @ 25¢ ft	45.50
	Assorted R W 14,889 feet @ 35.00	626.12
	Assorted P 5818 feet @ 26.00	151.27
		832.69

Wood a/c.

32	Cords Wood @ 3.00	96.

1633 Vehicles & Harness.

26	Road Carts	22.00	572.
1	Pole Cart	25.00	25.
2	Top Buggies with pole	110.00	220.
1	Spring Wagon	25.00	25.
2	Oil Wagons	150.00	300.
1	2 hrs. Wagon	85.00	85.
1	Heavy Wagon	90.00	90.
1	Dump Cart	35.00	35.
25	sets single Harness	12.00	300.
6½	" double "	18.00	117.
2	" chain "	18.00	36.
1	" spring wagon harness	25.00	25.
2	" double buggy "	30.00	60.
1	" dump cart "	14.00	14.
2	" Double lines	2.50	5.
51	Halters	.75	38.25
9	Tie Ropes	.15	1.35
21	Horse collars	2.00	42.
5	Kicking straps	1.25	6.25

7	Breast plates	2.10	14.70
2	Bridles	1.50	3.
2	Saddles 1—35.00 1—20.00	....	55.
1	Fly net	5.00	5.
1	Saddle blanket	1.00	1.
2	Horse "	.75	1.50
17	whips	1.25	21.25
28	5 lb. chains	1.50	42.
9	Single trees	.30	2.70
7	Double trees	3.25	22.75
15	pr. Lead Bars	2.00	30.
3	Neck Yokes	.75	2.25
2	Harness punches	.50	1.
5	Cart cushions	1.50	7.50
1	Hay Rack	....	15.
1	set Seat Springs	2.00	2.
3	Clevises	.15	.45
4	Bow sockets	.30	1.20
2	pails Axle grease	.75	1.50
3	Heavy Robes	3.00	9.
1	Light "	.70	.70
3	Header trucks	60.00	180.
1	sled	2.00	2.
1	Wagon Jack	1.00	1.
			2419.35

1634 General Expense.

27	pairs Gum Boots	4.00	108.
8	Water troughs	10.00	80.
5	gals. sq. poison	1.50	7.50
1	" Ascetic acid	1.50	1.50
1	Coal Oil can	.50¢	.50
2	Gals. gasoline	.25¢	.50
100	ft. Clothes line	.75¢	.75
19	doz. " pins	.05	.95
3	only " Wringers	2.25	6.75
1	" " Basket	.45	.45
2	Soap dishes	.15	.30
11	Wash Basins	.20	2.20
16	" Tubs	.60	9.60
8	" Boilers	1.25	10.
6	" Boards	.25	1.50
1	" Machine	4.00	4.
10	Brooms	.25	2.50
3	Mops	.30	.90
32	Cords Food. See Wood a/c.		
2	pcs. 18" Sewer pipe	1.25	2.50
11	Tressels. See Tools & Mac.		
485	old sacks	.04	19.40
2	Canal Chains	75.00	150.
16	Single blocks	1.00	16.

60 lbs. ¾" Rope		.15¢	9.
1 sk. Cement		.75¢	.75
¾ bbl. Lime		1.50	1.15
950 lb. Wire Nails		.04¢	38.00
250 lb. Spikes		.04	10.00
2 Mty. Barrels		2.00	4.
1 Sprinkling pot		.75	.75
50' Rubber Hose		5.50	5.50
1 Nozzle		.50	.50
2 Row boats		10.00	20.
1 Sml. Barge		18.00	18.
6 oars		.50	3.
2 Buckets		.50	1.
40' ½" Wire Rope		.20	8.
3 Step ladders		.75	2.25
1 Grip		4.00	4.
1 Drag Chain		50.00	50.
			601.70

1635 Household Furniture.

10 Kitchen Tables	3.75	37.50
32 Lamps	1.00	32.
48 Chairs, Small	1.00	75.
9 " Rockers	1.50	13.50
9 Bureaus	3.50	31.50
10 Wash Stands	1.50	15.
6 Dressers	3.50	21.
6 Double bedsteads	4.00	24.
3 " " Iron	4.00	12.
18 Single "	2.00	36.
7 " Cots	2.00	14.
1 Folding Bed	10.00	10.
18 Mattresses	2.50	45.
10 " Spring	2.50	25.
26 Comforters	1.25	32.50
14 Single Blankets	1.00	14.00
44 Sheets	.60	26.40
65 Pillow slips	.15	9.75
24 Pillows	1.00	24.
14 Bed Spreads	2.00	28.
6 single mattresses	2.00	12.
13 Alarm Clocks	.45	9.75
1 8 day "	2.00	2.00
7 Desks 6 @ 2.50 1 @	22.50	37.50
12 Dining Tables	2.00	24.00
9 Table cloths	1.00	9.
8 Bureau Scarfs	.50	4.
14 napkins	....	2.
4 center tables	1.00	4.
2 Cupboards	5.50	11.
37 Window Shades	.40	14.80

16	pr. Lace Curtains	1.50	24.
1	Sash "	1.50	1.50
8	Curtain Rods	.30	2.40
38	Towels	.25	9.50
3	Wash Bowls & Pitchers	2.00	6.00
	carpets	....	20.00
	Matting for 7 rooms @	1.00	7.00
4	Large rugs	5.00	20.
9	small "	1.50	13.50
10	Heating stoves	6.00	60.
8	Sad irons	.25	2.
3	Feather dusters	2.00	6.
3	dust pans	.35	1.05
3	mirro-s	.25	.75
1	Comb & Brush	.75	.75
1	Couch	15.00	15.00
1	Waste Basket	.50	.50
			849.15

1636 Subsistence.

6	Egg Beaters	.15	.90
4	Graters	.05	.20
9	Soup Ladles	.20	1.80
11	Strainers	.10	1.10
10	Dippers	.05	.50
25	Tin Cups	.07	1.75
4	Milk Skimmers	.15	.60
60	" Pans	.15	9.00
8	" Pails	.50	4.00
2	" Strainers	.25	.50
105	Table Knives	.03	3.15
127	" Forks	.02	2.54
86	" Spoons	.06	5.16
101	Tea Spoons	.05	5.05
17	Butcher Knives	.25	4.25
8	Mixing Spoons	.05	.40
2	Large Forks	.05	.10
2	Chopping Knives	.15	.30
9	" Bowls	.40	3.60
22	Pie Plates	.05	1.10
19	Platters	.25	4.75
48	Vegetable dishes	.20	9.60
38	Soup plates	.12	4.56
141	Dinner plates	.10	14.10
143	Cups	.06	8.58
92	Saucers	.06	5.52
12	large pitchers	.40	4.80
6	Cream "	.25	1.50
14	syrup "	.30	5.20
13	sugar bowls	.30	3.90

24	mush bowls		.10	2.40
4	gravy "		.25	1.
1	Cake dish		1.00	1.
16	sauce "		.06	.96
15	des-ert "		.30	4.50
11	Individual butter dishes		.07	.77
5	Butter dishes		.25	1.25
8	Pepper shakers		.10	.80
7	salt "		.10	.70
4	spoon holders		.20	.80
3	Basins		.15	.45
81	Jelly glasses		.05	4.05
25	glasses		.05	1.25
11	Tea pots		.40	4.40
14	coffee "		.40	5.60
6	" Mills		.45	2.70
12	Tea kettles		.60	7.20
	Forward			151.34

1637 Subsistence—(Continued).

	Brt. Forward			151.34
9	Hot cake turners		.50	4.50
7	griddles		.50	3.50
3	muffen pans		.50	1.50
1	skillet		.50	.50
5	small pans		.40	2.
3	baking "		1.25	3.75
13	dish "		.60	7.80
25	bread "		.15	3.75
27	fry "		.50	13.50
40	stew pots		.50	20.
7	cleavers		.75	5.25
152	Fruit cans		.05	7.60
63	Mason jars		.75 doz.	3.95
5	stone "		.25	1.25
10	Cook stoves 1-25 3-15 4-10 2-4		....	118.
1	" " Oil		8.50	8.50
17	water buckets		.50	8.50
2	" coolers		4.50	9.00
1	Ice Cream Freezer		2.50	2.50
10	Kitchen Tables. See Household Furniture.			
2	Flour Sieves		.25	.50
7	large kettles		.50	3.50
4	steels		.70	2.80
2	Stove shovels		.15	.30
6	spud mashers		.15	.90
9	meat saws		.75	6.75
10	" safes		2.50	25.
5	churns		1.00	5.

2	Rolling pins	.25	.50
2	1 gal. Demijohns	.40	.80
16	cans Tomatoes	.10	1.60
207	qts. Fruit	.20¢	41.40
358	Chickens	.40	143.20
1	Cow	35.00	35.
2	Calves	10.00	20.
	Provisions	....	65.
			728.94

1638 Tools & Machinery.

33	Pike poles	1.00	33.
61	shovels	.75	45.75
4	Spades	.75	3.
14	Picks	.45	6.30
6	Rakes	.50	3.
19	Mattocks	1.25	23.75
2	Adze	.70	1.40
4	Hoes	.40	1.60
2	Brush Hooks	.60	1.20
1	Weed Fork	1.10	1.10
10	Grub Hoes	.90	9.
40	Pitch Forks	.90	36.
5	Hoe down forks	1.00	5.
14	Crow bars	.50	7.
3	6′ Crosscut saws	.75	2.25
9	4½′ " "	.50	4.50
30	Axes	.90	27.
10	Hatchets	.75	7.50
2	Pile drivers lge.		
1	" " sml.		300.00
8	Douglas pump	3.50	28.
1	Centrifugal pump 12" M. & L.		
17	Slip Scrapers	7.50	127.50
2	Slush "	7.50	15.
2	Wheel "	40.00	80.
3	4 horse "	15.00	45.
3	Single plows	7.50	22.50
1	Hay Rake	....	22.50
1	Set Harrows	....	10.
2	Mowing machines	55.00	110.00
2	Header gears		
1	" truck	See Vehicles & Harness.	
1	Sled		
1	Wagon Jack. See V. & H.		
3	Grind stones	3.75	11.25
8	scythes	1.00	8.
2	120 lb. Anvils	10.00	20.
2	Blacksmith vise	3.50	7.
1	" blower & Forge	....	22.50
1	" Hammer	.75	.75

19	pr. Tongs	.60	11.40
6	10-lb. sledge hammers	1.00	6.
7	wedges	.75	5.25
2	drills	40.00	140.
5	" bits	.50¢	2.50
1	Hardy	.20	.20
	Forward		1223.70

1639 Tools & Machinery—(Continued).

	Brought Forward		1223.70
21	Monkey Wrenches	.40	8.40
3	S "	.15	.45
1	Pipe "	1.00	1.
1	" Vise	1.50	1.50
1	" Cutter	1.00	1.
2	sets Caps & Dies	10.00	20.
1	Tap Holder	.25	.25
1	Brazing torch	3.00	3.
1	Soldering Iron	.50	.50
5	Buck saws	.75	3.45
14	Hand "	.80	11.20
1	Saw horse	.25	.25
1	" set	.75	.75
2	" vise	.75	1.50
10	Braces	.75	7.50
26	Bitts	.15	3.90
5	Augers	.50	2.50
4	Squares	.65	2.60
11	Hammers	.50	5.50
1	pr. pincers	1.00	1.
9	Files	.10	.90
2	Rasps	.10	.20
2	Planes	.50	1.
9	punches	.20	1.80
1	Cold chisel	.15	.15
1	set "	1.50	1.50
7	odd "	.25	1.75
1	Draw Knife	.60	.60
1	Borax spoon	.20	.20
1	Oil Can	.15	.15
3	gals. Castor Mac. Oil	.35¢	1.05
1	Lawn Mower	6.00	6.
10	Wheel Barrows	3.00	30.
3	Sheep shears	.90	2.70
3	Mauls	.60	1.80
2	Branding Irons	1.00	2.
5	Axe Handles	.20	1.
3	Fork "	.35	1.05

1	Windlass	10.00	10.
11	*Trussels*	.50	5.50
1	4 H. P. Gas Engine Pump	....	150.
			1519.60

Endorsed: Inventory S. J. & K. R. C. & I. Co. Nov. 15, 1907. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Compl't's Exhibit No. 17 for Identification. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

Statement of Number of Acres Irrigated from Canals of S. J. & K. R. C. & I. Co. from 1897 *to* 1908, *Inclusive.*

Year.	Main canal. Fresno.	Main canal. Merced.	Main canal. Stanislaus.	Dos Palos canal. Fresno.	Dos Palos canal. Merced.	Outside canal. Fresno.	Outside canal. Merced.	Total.
1897	9,250	15,003	6,401	3,255	3,241	3,122	.....	40,272
1898	5,694	23,557	10,034	4,440	3,151	2,250	11,285	60,411
1899	10,855	21,528	11,007	4,662	5,463	3,007	8,662	65,184
1900	11,215	20,129	9,750	4,052	4,060	3,132	8,145	60,483
1901	10,033	17,125	7,948	3,473	3,062	5,067	3,583	50,291
1902	10,443	17,502	9,772	3,922	4,939	4,292	4,096	54,966
1903	13,282	20,490	7,051	4,276	4,884	4,742	5,483	60,208
1904	24,361	26,944	11,284	5,431	5,002	8,104	11,723	92,849
1905	26,392	33,662	11,673	5,279	5,838	8,257	12,879	103,980
1906	20,147	32,311	11,858	5,250	6,168	8,305	10,410	94,449
1907	11,453	22,324	11,729	5,598	9,813	3,792	9,933	74,642

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VERTICAL IN BOOK

1908.....	17,023	22,290	11,637	3,799	7,588	5,544	12,628	80,509
	170,148	272,865	120,144	53,437	63,209	59,614	98,827	838,244
Average per year.....	14,179	22,739	10,012	4,453	5,267	4,968	8,984	70,602

Endorsed: No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Compl't's Exhibit No. 20. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1641 COMPL'T'S EXHIBIT No. 21.

Comparison of the Estimated Costs Between the Two Reports on the Canal and Works of the San Joaquin and Kings River Canal and Irrigation Company, as Made by R. H. Goodwin on June 9th, 1896, for the County of Stanislaus and on December 24th, 1906, for the Above-mentioned Company.

Estimated Cost, in Report 1906.....	$996,312.63
" " " " 1896.....	312,358.00
Difference between the two reports.....	$683,954.63

1642 *Comparison of Prices, Material, Labor, etc.*

Lumber.

Lumber f. o. b. Steamer at Long Wharf S. P. R. R. Co. at Oakland, Cal.

	Report of 1896.	Report of 1907.
Redwood planking, per M ft. B. M.....	$13	$27
" timber " " "	14	27
Pine " " " "	11	27
Piles round, per running foot.....	13¢	25¢

Carpenter Work.

	Report of 1896.	Report of 1907.
Carpenter Work on bridges—per M ft. B. M.....	$5	$5
" " " small gates " " "	5	10
" " " Regulating or stopgates " "	7	10

Earth Work.

	Report of 1896.	Report of 1907.
Excavation per cubic yard.....	6½¢	
" dredging " "	...	5¢
" 25 to 40 foot canals " "	...	10¢
" 20 foot canals " "	...	8¢
" 10 foot canals " "	...	7¢

Freight on Lumber—S. P. R. R. Co.

	Report of 1896. Per M ft. B. M.	Report of 1906. Per M ft. B. M.	Report of 1906. Ton.
Station—Crows Landing.....	$5.15	$4.35	$2.90
" Newman	5.45	4.65	3.10
" Ingomar	6.05	5.25	3.50
" Volta	6.35	5.55	3.70
" Los Banos	6.50	5.70	3.80
" Dos Palos	6.86	5.70	3.80
" Firebaugh	7.15	5.70	3.80
" Mendota	7.30	5.70	3.80

1643 *Comparison of Earthwork and Lumber in Place.*

Earthwork.

Excavation—Main Canal, Parallel Canal, Extension "A" and Extension "B" Canals:

					Report of 1896.	Report of 1906.	Report of 1906. New work.
As per Report	1896—	2,966,125	cubic yards	@ 6½¢	$192,798.00		
" " "	1896	2,966,125	"	@ 10¢	.....	$296,612.50	
New since "	1896	189,373	"	@ 10¢	.....	.....	$18,937.30
" " "	"	46,320	"	@ 7¢	.....	.....	3,242.40
" " "	"	17,000	"	@ 5¢	.....	.....	850.00
		3,218,818	"		$192,798.00	296,612.50	23,029.70
Increase of cost of earthwork, using same quantities as in report of 1896					.....	192,798.00	

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Lumber in Place.

In bridges and gates on Main Canal, Parallel Canal Extension "A" and Extension "B" Canals:

	Report of 1906.	Report of 1896.	Report of 1906. New work.
Bridges and Gates, as per Report of 1896	$55,536.50		
Bridges and Gates remodelled or replaced since 1896	.....	$96,271.92	
Bridges and gates new since 1896	.....	.....	$102,806.49
	$55,536.50	$96,271.92	$102,806.49
		55,536.50	
Increase of cost of bridges and gates (remodelled or replaced) on sites as set forth in report of 1896	.....	$40,735.42	

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1644 *Comparison Between the Two Reports as to the Main Canal, Parallel Canal, Extension "A" and Extension "B" Canals.*

	Report of 1896.	Report of 1906.	Report of 1906. New work.
Earthwork, Page 3....	$192,798.00	$296,612.50	$23,029.70
Lumber in Gates, etc., Page 3	55,536.50	96,271.92	102,806.49
Canal Stations	4,000.00	4,655.00	
Telephone Lines	4,900.00	4,970.00	
Engineering, etc.	25,723.40	45,290.12	
	$282,957.90	$447,799.54	$125,836.19
		282,957.90	
Increase of cost of canal and works on same lines as set forth of 1896.....		$164,841.64	

N. B.—Item $29,400 for rights of way in report of 1896 omitted for the purpose of comparing costs of work. The Item not being used in report of 1906.

1645 *Summary of New Works, etc., in Report of* 1906 *Since Report of* 1896.

San Joaquin River Weir.....	$54,046.50	
Headgate, China Slough.....	3,814.82	
New Bridges, Stop, Outlet and measuring gates on Main, Parallel Extensions "A" and "B" Canals.....	44,945.17	
		$102,806.49
Earthwork, enlarging Main, Parallel, and Extension "A" Canals, 189,373 cubic yds.	18,937.30	
Drain Canal 46,320 cubic yds.....	3,242.40	
China Slough 17,000 " "	850.00	
252,693 yds		23,029 70
Horses and Carts	937.00	
Machinery and Tools, etc.	12,120.00	
Surveying & Telephone Instruments...	607.00	
Office Furniture	50.00	
		13,714.00
Dos Palos System		135,133.08
Outside Canal and Extension		243,678.99
Outlet Canals No-. 1, 2, 3, 4, 5.....		26,829.83
Orestimba Branch Canal		3,321.00
New Works and Sundry items. Total amount		**$548,513.09**

Add the following estimated increase of cost of canal and works since 1896:		
Earthwork, Main, Parallel & Extension "A," Page 3	103,814.50	
Lumber, Main, Parallel & Extension "A" and "B" Page 3	40,735.42	
Canal Stations " 4	655.00	
Telephone Lines " 4	70.00	
	19,566.72	
		164,841.64
Total increase of Estimated Cost and new work		$713,354.73
Less item rights of way in report of 1896 to balance the estimated costs of the two reports	29,400.00	
Also less amount in error footing 1896 report	.10	
		29,400.10
Difference between the two reports P-ge 1		$683,954.63

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 21. E. H. H., Master etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1646 COMPL'T'S EXHIBIT No. 23.

To the Trustees of the San Joaquin and Kings River Canal and Irrigation Company.

GENTLEMEN: We, a Committee of your Body, appointed under Resolution of our Board adopted Aug. 28th, 1879 "to take steps to settle without further litigation all matters in dispute in suits now pending between this Company and Miller & Lux", do hereby report as follows, viz:—

We have carefully examined the matters in controversy between our Company and Miller & Lux in the case now pending in the Nineteenth District Court of this State entitled "The San Joaquin & Kings River Canal and Irrigation Company against Miller & Lux" as set forth in the complaint of said Company; in the cross-complaint and answer of Miller & Lux and in the answer of the Company to the said cross-complaint.

In making this examination we have been actuated by a desire to arrive at the exact truth of the matter; to discover the true cause of the controversy, and, if possible, to settle the same equitably. In doing so we have gathered all the facts obtainable from sources on both sides of the question.

In the complaint and cross-complaint many of the allegations are trivial and on their face improbable, and bear evidence of being

rather the product of a bitter personal quarrel than of an honest effort to litigate a disputed point.

The material difference between these litigants, as we learn from the pleadings in the case, and from the testimony of persons well informed in the facts relative thereto, is as to the construction of Articles 5 and 10 of a certain agreement made between Miller & Lux and our Company, a true copy of which is attached to the complaint in said case and marked "Exhibit A".

1647 As to Article 10 our Company holds that sheep are not "cattle" within the scope of said agreement; this we think is an untenable position.

As to Article 5 Miller & Lux claim that said agreement shall run with the land to them, their tenants and grantees forever, to the extent of 50,000 acres, whilst our Company rather inconsistently repudiate the Article, claiming that it only ran for three years from date of contract. The Article is ambiguous and difficult of construction, but we think neither view is correct and we recommend the following compromise which we believe to be in accordance with the spirit of the contract and equitable and just to both parties.

As to the other matters alleged in the complaint and cross-complaint in said case, those which are probable and material are generally admitted in the respective answers, and in computing these items we find that they almost balance each other, leaving only a small sum in favor of Miller & Lux.

We would also call your attention to the fact that Miller & Lux have not conveyed to this Company the right of way to much of their land through which the canal passes, and the conveyances they have made are indefinite as to width. It is important that conveyances thereof should be obtained and in arranging a compromise we have made it a primary condition that Miller & Lux shall convey to this Company a right of way of 100 feet wide on each side of the center line of said Canal so far as said canal passes through their lands.

We therefore recommend that this company settle all matters of difference between them and said Miller & Lux upon the following terms viz:—

1. Said Miller & Lux shall by deed convey to this Company a right of way for said canal over their lands, when said canal has

1648 been constructed, of the width of one hundred feet on each side of the center of said Canal.

2. That subdivision Fifth of the contract referred to as "Exhibit A" in the complaint filed in said action shall be so construed as to apply to said Miller & Lux, their tenants, employees, heirs, executors, and administrators, and shall run with the land to the extent of Thirty-three thousand, three hundred and thirty-three and one-third acres (33,333⅓ ac.), but shall not apply to the grantees of said Miller & Lux, or the grantees of their heirs, executors or administrators; and subdivision Tenth of said contract shall apply to all domestic animals owned, pastured or cared for by Miller & Lux, their tenants, employees, heirs, executors or administrators.

3. That the conditions and stipulations above referred to shall be

placed in such proper form as shall be binding upon this Company and said Miller & Lux, and

4. That when the same is done then said action and cross action shall be dismissed, each party releasing the other from all claims and demands referred to in said action and cross action.

San Francisco, Oct. 2, 1879.

WILLIAM CENTER.
JOSEPH ROSENBERG
JOHN H. BOLTON.

We recommend the above settlement.

J. C. Wilmerding	2,100	shares
J. D. Walker	4,941	"
Claus Spreckels	5,000	"
Forw'd	12,041	"
1649 Forw'd	12,041	shares
J. C. Stuart, Trustee	1,841	"
Timothy Paige	1,000	"
D. P. Barstow, Trustee	4,941	"
E. A. Richardson, Trustee	4,941	"
J. B. Haggin	1,000	"
Henry Pierce	1,000	"
James E. Gordon	500	"
Wm. I. Chapman	100	"
C. T. Pearson	300	"
Jos. Sedgley	300	"
John H. Bolton	100	"
Jesse S. Potter	4,250	"
Jos. Rosenberg	3,900	"
Miller & Lux	41,625	"
	77,839	

Endorsed: 219-"A". Report of Trustees' Committee in matter of Settlement of Matters in dispute with Miller & Lux and Approval by Stockholders October, 1879. U. S. Circuit Court, N. Dist. of Cal. The San Joaquin and Kings River Canal and Irrigation Co. vs. The County of Stanislaus, et al. No. 12257. Complainant's Exhibit 25. E. H. H. Examiner. Published and Filed Dec. 1st, 1899. Southard Hoffman, Clerk. No. 14554 In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 23. E. H. H. Master, etc. Filed May 14 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1650 COMPLAINANT'S EXHIBIT No. 24.

Decision.

From the pleadings and evidence in the above entitled cause, the Court finds the following to be the facts:

1. The plaintiff is now, and for more than ten years next before the commencement of this action has been, the owner and in the possession and entitled to the possession of all those certain lands situate, lying and being in the County of Merced, State of California, described as follows, to wit:

All those portions of Townships 6 South, Range 9 East, 7 South, Range 9 East, and 7 South, Range 10 East, Mount Diablo Meridian, which are comprised in swamp and Overflowed Land Surveys of said Merced County Nos. 156, 158, 157, 112, 113, 160, 155, 115, 114, 126, 129, 128, 131, 127, 124, 133, 132, 130, 233, 234, 232, 189, 85, 67, and 236, containing in all 2407.27 acres.

2. The San Joaquin River is a natural stream of water with well-defined bank and channel, through and over which channel of said river, throughout its entire course, water flows from the said Sierra Nevada Mountains to the Bay of San Francisco, and said river in its meanderings passes through the Counties of Fresno, Madera, Merced, and Stanislaus, in said state. The said channel of said river forms the south and west boundaries of the lands of plaintiff above described, and said lands border upon said river and are riparian thereto.

3. The plaintiff is, by virtue of his ownership of said lands, a riparian proprietor on said river; but he is not the owner of all or any of the water flowing in said river, and is entitled to the use and enjoyment of only so much of said water as a riparian proprietor is entitled to use by virtue of such proprietorship.

1651 4. Upon said above described land the plaintiff now pastures, and for more than ten years last past has continuously pastured, numbers of horses, mules, and cattle, and the said horses, mules, and cattle have been accustomed to and did water thereat.

5. The said land above described is adapted to irrigation by water from said river; but said water has not been used by plaintiff for the irrigation of said land, except such irrigation as is naturally caused by percolation and overflow thereon of the waters of said river. As a result of such percolation and overflow, the plaintiff has raised large crops of grass and feed on said land for the said horses, mules, and cattle pastured thereon.

6. The defendant is, and has been ever since the year 1871, a corporation duly organized, existing, and acting under and by virtue of the laws of the State of California.

7. The defendant was organized for the purpose, among others, of acquiring water rights and interests therein, of acquiring and holding land, of constructing and maintaining water ditches, canals, and other property, and of furnishing, supplying, and selling water

to its stockholders and others for domestic, stock, agricultural, mechanical, manufacturing, and other purposes.

8. In the year 1871, the defendant erected a dam in said Fresno County, and in and across the channel of the said San Joaquin River, and maintained the same thereafter continuously up to the year 1898, in which year it erected another dam at substantially the same place at which said former dam was situated; and, for more than five years prior to the commencement of this action, it had, by means of said former dam and its said present dam, diverted and taken from the said San Joaquin River a portion of the waters thereof amounting, whenever there was sufficient
1652 water in said river for that purpose, to 760 cubic feet thereof per second.

9. The defendant is, and for more than five years prior to the commencement of this action has been, the owner and in the possession and entitled to the possession of those certain lands in the Counties of Fresno and Madera in said state, described in "Schedule A" of the answer, of which lands sixteen hundred (1600) acres border on and are riparian to the said San Joaquin River.

10. The water so diverted by defendant from said river has, during all of said period, been conducted by it, through canals and ditches constructed, owned, and operated by it, through the said Counties of Fresno and Merced and into the said County of Stanislaus; and has been supplied and sold by it to other persons to be used, and which has by them been used, for the irrigation of land, and for domestic and stock and other beneficial purposes.

11. The land which has been so irrigated by the persons to whom the defendant has so sold said water does not and never did border upon the said San Joaquin River, and it is not and never was riparian thereto.

12. None of the said water so diverted by the defendant and used upon said non-riparian land has been wasted; but the same was consumed by said irrigation and other beneficial uses, and was not returned to said river above the plaintiff's said lands.

13. By reason of the said diversion of said water by defendant as aforesaid, the plaintiff has been deprived of the use of said water for plaintiff's said horses, mules, and cattle to drink, and for the irrigation of plaintiff's said lands; but plaintiff has not
1653 been damaged thereby in any sum of money.

14. From the year 1871, and down to the commencement of this action, the defendant has so maintained its dam and canals aforesaid, and diverted and used the water aforesaid, openly, continuously, and uninterruptedly, peaceably, and adversely to plaintiff and to all the world, under a claim of right and claiming the right so to do; all of which was, during all of said time, well known to plaintiff and his grantors and predecessors in interest.

15. The defendant threatens and intends to continue to divert said water, and a still greater quantity of water, from said river, and the diversion by defendant of any greater quantity than said amount of 760 cubic feet per second would result in the impairment of the fertility and value of plaintiff's said land, to the great

and irreparable damage and injury of plaintiff; and pecuniary compensation thereof would not afford adequate relief for such damage and injury.

16. Plaintiff's cause of action, so far as the same extends to said amount to 760 cubic feet of water per second, is barred by the provisions of Sections 318 and 319, and subdivision 2 of Section 338, of the Code of Civil Procedure; but his cause of action as to any of said water in excess of said amount of 760 cubic feet per second is not so barred.

17. The water diverted by the defendant into its canals cannot conveniently be measured at its head gates; but the same can conveniently be measured, with substantial accuracy, at a point on its Main Canal, distant 6134 feet, measured along the Northerly bank of said canal, from the upper face of the Head gate of said Main Canal; and the quantity of water carried by said canal at that point is substantially the quantity diverted by the defendant from
1654 said river.

And as conclusions of law from the foregoing facts the Court finds and decides:

(*a*) That defendant is entitled to divert from said San Joaquin River, by means of its dam and canals aforesaid, or by such other means as will produce substantially the same results, 760 cubic feet of water per second, and to use the same for the purposes for which it has so used said water as aforesaid.

(*b*) That the defendant is not entitled to divert from said San Joaquin River and carry or conduct onto any non-riparian land, any greater quantity of water than 760 cubic feet of water per second.

(*c*) That the quantity of water which the defendant may lawfully divert from said river for use upon lands riparian to said river is not in issue in this action, and there is no evidence from which the same can be determined, and the same is not hereby determined.

(*d*) Let judgment be entered enjoining and restraining the defendant, its counselors, attorneys, solicitors, and agents, and all others acting in aid or assistance of defendant, from diverting, above the said lands of plaintiff, more than 760 cubic feet of water per second from the San Joaquin River, for use upon, and from carrying or conducting to, any lands not riparian to said river, and awarding to plaintiff the sum of one dollar ($1.) damages, but without costs.

(*e*) Said judgment is to be without prejudice to the right of plaintiff hereafter to commence and maintain such action or actions as he may be advised to determine and limit the quantity of water which the defendant may divert from said river for use upon lands riparian to said river.

M. L. SHORT,
Judge Presiding.

1655 Endorsed: Filed April 2nd, 1906. W. B. Croop, Clerk.

1656 COMPLAINANT'S EXHIBIT No. 25.

Decree.

This cause came on regularly for trial before the Court, sitting without a jury, on the 6th day of February, 1905, a jury trial having been waived. Messrs. James F. Peck, H. A. V. Torchiana, and Charles C. Boynton appeared for the plaintiff, and Messrs. R. E. Houghton, J. K. Law, and W. B. Treadwell appeared for the defendant. Thereupon witnesses were sworn and examined and documentary evidence introduce- on behalf of the respective parties; and, after argument by counsel, the cause was submitted and by the Court taken under advisement.

And now, on this 2nd day of April, 1906, the Court, being fully advised in the premises, filed its findings of fact and conclusions of law, and orders judgment to be entered accordingly.

Wherefore, by reason of law and the finding aforesaid, it is by the Court here ordered, adjudged, and decreed:

1. That the defendant, The San Joaquin and Kings River Canal and Irrigation Company, is entitled to divert from the said San Joaquin River, by means of its dam and canals mentioned in the answer herein, or by such other means as will produce substantially the same results, seven hundred and sixty (760) cubic feet of water per second, and to use the same for the purposes of irrigation of land, and for domestic and stock and other beneficial purposes;

2. That said defendant is not entitled to divert from said river and carry or conduct to or upon any land not riparian to said river, any greater quantity of water than seven hundred and sixty (760) cubic feet per second;

3. That the quantity of water which said defendant may
1657 lawfully divert from said river for use upon lands riparian to said river, is not hereby determined;

4. That the said defendant, its counselors, attorneys, solicitors, and agents, and all other persons acting in aid or assistance of said defendant, are, and each of them is, hereby forever enjoined and restrained from diverting from said San Joaquin River, at any point above the lands of the plaintiff, J. J. Stevinson, hereinafter described, any greater quantity than seven hundred and sixty (760) cubic feet of water per second, for use upon, and from carrying or conducting the same to, any lands not riparian to said river;

The said lands of the said plaintiff are described as follows:

All those portions of Town-ships 6 South, Range 9 East, 7 South, Range 9 East, and 7 South, Range 10 East, Mount Diablo Meridian, which are comprised in Swamp and Overflowed Land Surveys of said Merced County Nos. 156, 158, 157, 112, 113, 160, 155, 115, 114, 126, 129, 128, 131, 127, 124, 133, 132, 130, 233, 234, 232, 189, 85, 67, and 236, containing in all 2407.27 acres;

5. For the purpose of the better enforcement of this decree, the quantity of water diverted by said defendant from said river for use upon non-riparian lands, is to be measured at that point in the Main

Canal of said defendant distant six thousand one hundred and thirty-four (6134) feet, measured along the Northerly bank of said Canal, from the upper face of the Head gate of said Main Canal; which said point of measurement has been agreed upon by the parties hereto;

The defendant shall, at all times, keep and maintain, at said place, a suitable foot-bridge across said canal, and all other necessary conditions to enable the water flowing in said canal at that place
1658 to be readily and conveniently measured by the parties hereto;

But, inasmuch as, by change of circumstances of otherwise, alterations in this decree with respect to said measurement may become necessary or proper, leave is hereby granted to either of the parties hereto, hereafter to apply to the Court, by supplemental pleading or in other suitable manner, for such alterations in or modifications of this decree as he or it may be advised to apply for, with respect to the place or manner of measurement of said water; and the Court hereby reserves the right at any time to alter or modify this decree, in those particulars, upon such application;

6. That the said plaintiff do have and recover of and from the said defendant the sum of one dollar ($1.00) damages, but without costs;

7. That this decree shall be and is without prejudice to the right of said plaintiff hereafter to commence and maintain such action or actions as he may be advised, to determine and limit the quantity of water which said defendant may divert from said river for use upon lands riparian to said river.

M. L. SHORT,
Judge Presiding.

Endorsed: Filed April 2nd, 1906, W. B. Croop, Clerk.

COMPLAINANT'S EXHIBIT No. 26.

Valuation of San Joaquin & Kings River Canal.

By W. C. Hammatt, C. E.

Notes September, 1908.

Calculations to July 1st, 1907.

1660 *Summary of Depreciation Calculations of S. J. & K. R. C. & I. Co.'s System up to July 1st, 1907.*

Name of canal.	Valuation.	Depreciation of structures.	Appreciation of earthwork.	Present value.
Fresno Co.				
Headworks	84732.23	24285.71	.....	60446.52
Main Canal	106215.48	10111.10	18700.00	114804.38
Parallel Canal	50200.16	3369.72	8850.00	55680.44
Dos Palos "	42558.68	9449.29	2785.00	35894.39
do. Branch 1	11490.00	1805.83	790.00	10474.17
do. " 2	4726.65	761.09	287.00	4252.56
Outside Canal	82134.10	4010.87	13550.00	91673.23
Outlet No. 1	5270.73	572.42	482.00	5180.31
do. 2	4299.43	718.97	385.00	3965.46
do. 3	6052.15	908.87	630.00	5773.28
	397683.61	55993.87	46459.00	388144.74

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Name of canal.	Valuation.	Depreciation of structures.	Appreciation of earthwork.	Present value.
Merce[illegible] Co.				
[illegible]in Canal	74069.12	7780.15	11950.00	78238.97
do. Ext. "A"	139652.12	12500.00	21400.00	148552.12
Para[illegible]l Canal	58882.20	5027.66	10100.00	63954.54
Dos P[illegible]s "	14670.80	3298.64	684.00	12056.16
do. Ext'n	17668.93	1898.45	1730.00	17500.48
do. [illegible]r. 1	6453.42	281.58	1250.00	7421.84
do. 2	13265.23	1901.82	1300.00	12663.41
do. 3	14977.83	2193.78	1200.00	13984.05
do.	9321.54	1873.05	345.00	7793.49
Outside Canal	86716.32	7123.56	11350.00	90942.76
do. Ext'n	74828.57	4427.79	11600.00	82000.78
Outlet No. 4	3384.30	721.56	125.00	2787.74
do. 5	7823.22	1051.20	472.00	7244.02
	521713.60	50079.24	73506.00	545140.36
Stanislaus Co.				
Main Canal Ext. "A"	40,363.92	4,057.99	5,670.00	41,975.93
do. "B".	29,097.50	4,204.39	3,540.00	28,433.11
Orestimba Br.	3,321.00	930.60	190.00	2,580.40
	72,782.42	9,192.98	9,400.00	72,989.44

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Place.	Length.	Width.	Acres.	Price.	Value.
Fresno County.					
Headworks	....	....	78.44	$15.00	1176.60
China Slough	7400 ft.	300′	51.00	15.00	765.00
Main Canal	57450 ft.	200′	264.00	15.00	3960.00
Parallel Canal	53750 ft.	250′	308.00	15.00	4620.00
Outside "	100000 ft.	200′	459.00	15.00	6885.00
Outlet Canal #1	4350 ft.	100′	10.00	15.00	150.00
" " #2	5870 ft.	100′	13.50	15.00	202.50
" " #3	5710 ft.	100′	13.10	15.00	196.50
Colony "	46700 ft.	156′	167.50	15.00	2512.50
" " Br. #1	14500 ft.	125′	41.50	15.00	622.50
" " Br. #2	5280 ft.	114′	13.80	15.00	207.00
			1419.84		$21297.60
Merced County.					
Parallel Canal	87356 ft.	250′	501.	60.00	30060.00
Main "	2117 ft.	200′	9.70	60.00	582.00
" Canal Ex. "A"	111600 ft.	200′	514.00	60.00	30840.00
Outside "	80000 ft.	200′	367.50	60.00	22050.00
" " Ex	78500 ft.	200′	360.00	60.00	21600.00
Outlet " #4	1000 ft.	100′	4.40	60.00	264.00
" " #5	7200 ft.	100′	16.60	60.00	996.00

ERTICAL IN BOOK

Place.	Length.	Width.	Acres.	Price.	Value.
Colony "	11800 ft.	156′	42.30	60.00	2538.00
" " Ex	17600 ft.	140′	56.60	60.00	3396.00
" " Br. #1	8500 ft.	125′	24.40	60.00	1464.00
" " " #2	18520 ft.	114′	48.50	60.00	2910.00
" " " #3	21900 ft.	116′	58.30	60.00	3498.00
" " " #4	15625 ft.	100′	35.80	60.00	2148.00
Los Banos Town Lots, 6 lots @	....	....	....	100.00	600.00
Quinto Sec. House	....	....	154.00	60.00	9240.00
			2193.10		$132186.00

Stanislaus County.

Main Canal Ex. "A"	40800 ft.	200′	187.50	100.00	18750.00
" " " "B"	21800 ft.	200′	100.00	100.00	10000.00
			287.50		$28750.00

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(Notes Taken Sept., 1908.)

General Items.

Item.	Value (new).	% dep.	Amt. dep.	Present value.
Dam	$54046.50	25	$13511.62	.....
Headgate	4853.86	80	3883.09	.....
Controlling Weir	7785.05	80	6128.04	.....
China Slough Hd. Gate	3814.82	20	762.96	.....
Section Houses	1455.00	0	.....	.....
Machinery & tools	12120.00	..	.....	.....
Surveying & Tel. Inst	607.00	..	.....	.....
Office Furniture	50.00	..	.....	.....
	$84732.23	..	$24285.71	$60,446.52

ERTICAL IN BOOK

Main Canal.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Pres. value.
Excavation	$73,290.00	.....	.....	$18,700.00	.....
"China Slo	850.00	.....	.....	.....	.....
Structures	$20,945.33	.....	$9,816.26	.....	.....
Tel. Lines	1,474.20	20%	294.84	.....	.....
Eng. & Supt	9,655.95	.....	.....	.....	.....
	$106,215.48	.....	$10,111.10	$18,700.00	$114,804.38

Detail List of Structures.

Sta.	Description.	Cost (Goodwin).	% dep.	Amt. dep.	Pres. value.
0–0	Bridge	$377.68	30	$113.30	.....
48–43	Waste Gate 20′	1,054.02	50	527.01	.....
59–41	Outlet, 6′	266.14	60	159.68	.....
75–01	Waste, 20′	1,054.02	60	632.41	.....
74–16	Outlet 8′	280.85	80	224.68	.....
86–00	Outlet 6′	266.14	70	186.30	.....
108–98	Outlet 8′	280.85	70	196.60	.....
137–07	Bridge	915.07	30	274.52	.....
do.	Stop Gate	4,843.96	30	1,453.19	.....
259–47	Waste 14′	368.31	50	184.15	.....
308–32	Bridge	318.99	100	318.99	.....

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332–60	Waste	1,200.54	70	840.38	.....
336–25	Outlet 7′	280.85	100	280.85	.....
336–80	Outlet 20′	1,054.02	80	843.22	.....
337–12	Stop Gate	1,088.30	80	870.64	.....
363–93	Bridge	521.33	10	52.13	.....
378–28	Bridge	377.10	80	301.68	.....
495–82	Bridge	296.17	90	266.56	.....
502–00	Outlet	266.14	10	26.61	.....
555–90	Outlet	327.80	10	32.78	.....
578–28	Bridge	435.22	20	87.04	.....
585–56	Stop Gate	1,012.44	0	.....	.....
754–40	Outlet 5′	255.20	50	127.60	.....
761–50	Inlet	188.12	50	59.06	.....
762–13	Bridge	340.51	80	272.41	.....
767–00	Inlet	336.60	50	168.30	.....
810–32	Outlet	255.20	60	153.12	.....
893–20	Outlet	255.20	60	153.12	.....
894–24	Br. weir	413.70	80	330.96	.....
1001–88	Outlet	255.20	60	153.12	.....
1013–30	Inlet	308.04	50	154.02	.....
1029–40	Bridge	286.22	60	171.73	.....
1056–67	Outlet	255.20	00	.....	.....
1083–52	Outlet	255.20	50	127.60	.....
	Meas. Gates	725.00	10	72.50	.....
		$20,945.33	....	$9,816.26	.....

RTICAL IN BOOK

Parallel Canal.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Pres. value.
Excavation	$34,704.00	.....	.....	$8,850.00	.....
Structures	10,932.51	.....	$3,369.72	.....	.....
Eng. & Supt	4,563.65	.....	.....	.....	.....
	$50,200.16	.....	$3,369.72	$8,850.00	$55,680.44

Detail List of Structures.

Sta.	Description.	Cost (Goodwin).	% Dep.	Amt. dep.	Pres. value.
584–91	Outlet	$327.69	10	$32.77	.....
585–56	Stop gate	1,101.20	60	660.72	.....
599–41	Outlet	244.64	10	24.46	.....
621–71	Outlet	244.64	10	24.46	.....
642–98	"	244.64	10	24.46	.....
671–91	"	244.64	10	24.46	.....
685–47	Bridge	403.30	90	362.97	.....
699–96	Outlet	244.64	10	24.46	.....
727–58	"	244.64	10	24.46	.....
740–32	"	244.64	10	24.46	.....
755–06	"	244.64	10	24.46	.....
762–13	Stop Gate	936.56	80	749.25	.....
769–41	Outlet	199.54	10	19.95	.....

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383–25	"	199.54	10	19.95	.....
797–22	"	199.54	10	19.95	.....
810–32	"	199.54	10	19.95	.....
837–16	"	199.54	10	19.95	.....
864–65	"	244.64	10	24.46	.....
878–45	"	244.64	10	24.46	.....
599–41	"	244.64	10	24.46	.....
894–24	Stop gate	863.70	80	690.96	.....
920–95	Outlet	244.64	10	24.46	.....
937–70	"	244.64	10	24.46	.....
947–67	"	244.64	10	24.46	.....
960–94	"	244.64	10	24.46	.....
973–90	"	244.64	10	24.46	.....
1001–88	"	265.65	10	26.57	.....
1015–55	"	124.30	10	12.43	.....
1029–40	Bridge	286.22	60	171.73	.....
1039–00	Outlet	265.65	10	26.57	.....
1056–07	"	265.65	10	26.57	.....
1083–52		265.65	10	26.57	.....
	Meas. Gates	915.00	10	91.50	.....
		$10,931.51	....	$3,369.72	.....

RTICAL IN BOOK

Colony Canal.

Summary.

Item.	Cost.	(% dep.)	(Amt. dep.)	(Amt. app.)	Present value.
Excavation	$10,961.70	.....	.....	$2,785.00	.....
do. Side Canal	591.50	.....	.....	.....	.....
Structures	$27,136.51	.....	$9,449.29	.....	.....
Eng. & Supt	3,868.97	.....	.....	.....	.....
	$42,558.68	.....	$9,449.29	$2,785.00	$35,894.39

Detail of Structures.

Sta.	Description.	Cost (Goodwin).	% dep.	(Amt. dep.)	Pres. value.
1–25	Headgate	$918.13	100%	$918.13	.....
2–45	Stop gate	1,035.96	20	207.19	.....
17–29	" "	800.91	40	320.36	.....
46–61	" "	700.89	10	70.09	.....
	Pipe box	795.74	50	397.87	.....
74–30	Outlet	82.50	60	49.50	.....
74–75	Outlet	465.63	50	232.81	.....
74–87	Stop Gate	713.90	30	214.17	.....
94–88	Bridge	193.06	50	96.53	.....
94–73	Outlet	82.50	20	16.50	.....
95–10	"	82.50	20	16.50	.....
98–25	Pipe Box	550.00	50	275.00	.....

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116–81	Outlet	82.50	20	16.50	.....
132–10	Pipe Box	500.00	50	250.00	.....
134–56	Waste Gate	580.36	70	406.25	.....
143–89	Outlet	258.39	20	51.68	.....
148–30	"	284.52	20	56.90	.....
149–20	Stop Gate	713.90	60	428.34	.....
198–60	Pipe Box	400.00	50	200.00	.....
213–34	Outlet	331.34	20	66.27	.....
217–15	Bridge	246.06	20	49.21	.....
224–87	Outlet	284.52	20	56.90	.....
232–56	Pipe Box	700.00	50	350.00	.....
236–32	Outlet	82.50	20	16.50	.....
255–51	"	284.52	20	56.90	.....
255–72	"	284.52	20	56.90	.....
271–89	"	331.34	20	66.27	.....
272–46	"	284.52	20	56.90	.....
272–88	Stop Gate	713.90	50	356.95	.....
283–88	Outlet	284.52	20	56.90	.....
293–40	"	284.52	20	56.90	.....
293–78	Bridge	246.06	50	123.03	.....
308–45	H. G. C. F. Branch	690.74	50	345.37	.....
308–50	Outlet	284.52	20	56.90	.....
309–10	"	50.00	20	10.00	.....
309–35	Stop Gate	713.90	..	.....	.....
326–25	Outlet	50.00	20	10.00	.....
348–86	"	55.00	20	11.00	.....
355–90	"	55.00	20	11.00	.....
359–75	H. G. West branch	690.74	20	138.15	.....
360–00	Outlet	50.00	20	10.00	.....

RTICAL IN BOOK

Sta.	Description.	Cost (Goodwin).	% dep.	(Amt. dep.)	Pres. value.
362–04	Stop Gate	$713.90	20	$142.78	.....
370–16	Outlet	258.39	20	51.68	.....
387–00	"	55.00	20	11.00	.....
388–00	Pipe Box	1,000.00	50	500.00	.....
388–30	Outlet	55.00	20	11.00	.....
389–36	Bridge	471.20	20	94.24	.....
390–00	Outlet	241.78	20	48.36	.....
396–70	"	241.78	20	48.36	.....
398–00	"	241.78	20	48.36	.....
402–00	H. G. Br. #1	614.83	40	245.93	.....
403–71	Outlet	82.50	20	16.50	.....
403–88	Stop Gate	713.90	50	356.95	.....
404–55	Outlet	55.00	20	11.00	.....
409–14	"	55.00	20	11.00	.....
415–64	"	41.00	20	8.20	.....
418–86	"	55.00	20	11.00	.....
421–80	"	55.00	20	11.00	.....
426–89	Bridge	643.23	40	257.29	.....
426–95	Outlet	258.39	20	51.68	.....
429–14	Bridge	324.50	40	129.80	.....
429–52	Outlet	241.78	20	48.36	.....
429–52	"	241.78	20	48.36	.....
433–40	"	331.34	20	66.27	.....
443–40	"	241.78	20	48.36	.....
433–78	Stop Gate	713.90	50	356.95	.....
438–36	Outlet	55.00	20	11.00	.....
438–40	"	284.52	20	56.90	.....

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448–78	"	41.00	20	8.20	.....	
451–15	"	241.78	20	48.36	.....	
455–40	"	41.00	20	8.20	.....	
455–80	Outlet	241.78	20	48.36	.....	
459–54	"	241.78	20	48.36	.....	
462–33	"	241.78	20	48.36	.....	
466–45	"	324.50	70	227.15	.....	
	Meas. Gates	1,236.00	10	123.60	.....	
		$27,136.51	....	$9,449.29	.....	

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Fresno County.

Branch # 1, Colony Canal.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Present value.
Excavation	$3,102.96	.....	.....	$790.00	.....
Structures	$7,342.50	.....	$1,805.83	.....	.....
Eng. & Supt.	$1,044.54	.....	.....	.....	.....
	$11,490.00	.....	$1,805.83	$790.00	$10,474.17

Detail of Structures.

Sta.	Description.	Cost (Goodwin).	% dep.	Amt. dep.	Pres. value.
0–75	Outlet	$375.00	20%	$75.00	.....
5–00	"	87.78	20	17.56	.....
6–85	"	72.60	20	14.52	.....
11–51	"	72.60	20	14.52	.....

VERTICAL IN BOOK

Sta.	Description.	Cost (Goodwin).	% Dep.	Amt. dep.	Pres. value.
14–60	"	72.60	20	14.52	.....
14–89	"	72.60	20	14.52	.....
17–73	"	72.60	20	14.52	.....
18–15	"	87.78	20	17.56	.....
21–45	"	87.78	20	17.56	.....
24–72	"	72.60	20	14.52	.....
28–36	"	72.60	20	14.52	.....
31–83	"	87.78	20	17.56	.....
34–20	"	72.60	20	14.52	.....
34–79	Stop Gate	581.90	30	174.57	.....
36–60	Outlet	41.00	20	8.20	.....
41–07	"	87.78	20	17.56	.....
47–42	Bridge	192.25	30	57.67	.....
47–63	Outlet	72.60	20	14.52	.....
47–63	"	72.60	20	14.52	.....
49–86	"	41.00	20	8.20	.....
54–03	"	87.78	20	17.56	.....
54–10	"	125.00	20	25.00	.....
57–51	Bridge	155.66	70	62.26	.....
58–21	Outlet	72.60	20	14.52	.....
58–64	"	41.00	20	8.20	.....
60–60	"	72.60	20	14.52	.....
63–93	"	72.60	20	14.52	.....
66–05	"	87.78	20	17.56	.....
73–63	Bridge	192.25	40	76.90	.....
73–89	Outlet	72.60	20	14.52	.....
73–89	"	72.60	20	14.52	.....
78–48	"	72.60	20	14.52	.....
83–32	"	72.60	20	14.52	.....

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86–55	"	72.60	20	14.52	.....	
86–70	H. G. Br. 2	448.14	30	134.44	.....	
87–30	Stop Gate	581.90	30	174.57	.....	
98–81	Bridge	192.25	30	57.67	.....	
100–07	Outlet	72.60	20	14.52	.....	
106–40	"	72.60	20	14.52	.....	
112–98	"	72.60	20	14.52	.....	
118–82	"	72.60	20	14.52	.....	
118–96	"	284.57	20	56.91	.....	
119–90	Stop Gate	581.90	40	232.76	.....	
125–65	Outlet	284.57	20	56.91	.....	
125–90	"	72.60	20	14.52	.....	
126–40	Bridge	192.25	30	57.67	.....	
139–08	Outlet	72.60	20	14.52	.....	
	Meas. Gates	675.00	10	67.50	.....	
		$7,342.50	....	$1,805.83	.....	

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Fresno County.

Branch # 2, Colony Canal.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Pres. value.
Excavation	$1,129.92	.....	.....	$287.00	.....
Structures	$3,167.04	.....	$761.09	.....	.....
Eng. & Supt.	$429.69	.....	.....	.....	.....
	$4,726.65	.....	$761.09	$287.00	$4,252.56

VERTICAL IN BOOK

Detail of Structures.

Sta.	Description.	Cost (Goodwin).	% dep.	Amt. dep.	Pres. value
1–65	Outlet	$72.60	20	$14.52	.....
1–65	"	72.60	20	14.52	.....
5–83	"	55.00	20	11.00	.....
9–60	"	55.00	20	11.00	.....
11–00	"	20.00	20	4.00	.....
12–47	"	20.00	20	4.00	.....
14–69	"	72.60	20	14.52	.....
14–69	"	72.60	20	14.52	.....
18–80	"	30.00	20	6.00	.....
19–00	"	223.08	20	44.62	.....
19–30	Stop Gate	467.94	30	140.38	.....
26–56	Outlet	30.00	20	6.00	.....
31–40	"	41.00	20	8.20	.....
32–12	Bridge	147.05	40	58.82	.....
32–30	Outlet	87.78	20	17.56	.....
32–30	"	246.18	20	49.24	.....
32–86	"	30.00	20	6.00	.....
35–06	Stop Gate	467.94	30	140.38	.....
36–70	Outlet	87.78	20	17.56	.....
40–08	"	100.00	20	20.00	.....
41–90	"	55.00	20	11.00	.....
45–10	"	55.00	20	11.00	.....
45–20	Bridge	147.05	40	58.82	.....
47–89	Outlet	87.78	20	17.56	.....
49–13	"	87.78	20	17.56	.....
51–89	"	87.78	20	17.56	.....
	Meas. Gates	247.50	10	24.75	.....
		$3,167.04	....	$761.09	.....

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Outside Canal.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Pres. value.
Eng. & Supt.	$7,466.73	.....	.....	.....	.....
Excavation	53,240.00	.....	.....	$13,550.00	.....
" Side Canal	5,600.00	.....	.....	.....	.....
Structures	15,827.37	.....	$4,010.87	.....	.....
	$82,134.10	.....	$4,010.87	$13,550.00	$91,673.23

Detail of Structures.

Sta.	Description.	Cost (Goodwin).	% dep.	Amt. dep.	Pres. value.
0–00	H. G.	$1,985.39	30%	$595.62	.....
191–47	Outlet	364.23	10	36.42	.....
245–58	Bridge	596.92	30	179.08	.....
245–58	"	45.15	30	13.55	.....
266–00	Stop Gate	150.50	20	30.10	.....
267–66	Outlet	364.23	10	36.42	.....
269–37	Stop Gate	937.46	20	187.49	.....
392–00	"	150.50	20	30.10	.....
392–87	Bridge	561.36	20	112.27	.....
" "	"	45.15	20	9.03	.....
406–43	Bridge	410.21	30	123.06	.....
407–50	Stop Gate	150.50	30	45.15	.....

RTICAL IN BOOK

Sta.	Description.	Cost (Goodwin).	% dep.	Amt. dep.	Pres. value.
407–76	"	937.46	30	281.24	.....
497–00	"	150.50	30	45.15	.....
500–18	Outlet	364.23	10	36.42	.....
535–00	Stop Gate	150.50	30	45.15	.....
537–	"	150.50	30	45.15	.....
587	"	150.50	30	45.15	.....
589–92	Bridge	285.67	10	28.57	.....
593	Stop Gate	150.50	20	30.10	.....
601–70	Outlet	364.23	10	36 42	.....
602–93	Stop Gate	937.46	50	468.73	.....
607	"	150.50	20	30.10	.....
715–85	"	150.50	20	30.10	.....
716–15	Outlet	364.23	10	36.42	.....
720	Stop gate	150.50	20	30.10	.....
783–50	"	150.50	20	30.10	.....
786–55	Outlet	364.23	10	36.42	.....
" "	Bulkhead	45.00	20	9.00	.....
787–70	Stop Gate	937.46	30	281.24	.....
791	"	150.50	20	30.10	.....
852–10	Bridge	509.04	30	152.71	.....
" "	"	45.15	30	13.55	.....
969–77	"	298.83	30	89.65	.....
969–	Stop gate	150.50	30	45.15	.....
"	"	150.50	30	45.15	.....
971–63	"	991.78	40	396.71	.....
	Outlets	1,125.00	20	225.00	.....
	Meas. Gates	690.00	10	69.00	.....
		$15,827.37	....	$4,010.87	.....

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Outlet # 1.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. appr.	Pres. value.
Excavation	$1,883.50	.....	.....	$482.00	.....
Structure	2,908.08	30%	$572.42	.....	.....
Eng. & Supt.	479.15	.....	.....	.....	.....
	$5,270.73	.....	$572.42	$482.00	$5,180.31

Outlet # 2.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. appr.	Present value.
Excavation	$1,512.00	.....	.....	$385.00	.....
Structures	2,396.58	30%	$718.97	.....	.....
Eng. & Supt.	390.85	.....	.....	.....	.....
	$4,299.43	.....	$718.97	$385.00	$3,965.46

Outlet # 3.

Summary.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Pres. value.
Excavation	$2,472.40	.....	.....	$630.00	.....
Structures	3,029.56	30%	$908.87	.....	.....
Eng. & Supt.	550.19	.....	.....	.....	.....
	$6,052.15	.....	$908.87	$630.00	$5,773.28

RTICAL IN BOOK

Main Canal.

Item.	Cost (Goodwin).	% dep.	(Amt. dep.)	(Amt. app.)	Pres. value.
Structures	$16,117.37	.....	$7,542.99	.....	.....
Excavation	46,790.00	.....	.....	$11,950.00	.....
Drain Canal	3,242.40	.....	.....	.....	.....
Tele. Line	1,185.80	20%	237.16	.....	.....
Eng. & Supt.	6,733.55	.....	.....	.....	.....
	$74,069.12	.....	$7,780.15	$11,950.00	$78,238.97

Detail List of Structures.

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Pres. value.
1128–00	Inlet	$120.75	50	$60.37	.....
1129–40	"	318.38	50	159.19	.....
1163–00	Outlet	260.28	50	130.14	.....
1386–70	Inlet	318.38	50	159.19	.....
1346–00	"	318.38	50	159.19	.....
1346–22	Waste	2,387.11	50	1,193.55	.....
1347–13	Stop Gate	1,737.39	50	868.69	.....
1359–00	Inlet	318.38	80	254.70	.....
1375–70	Inlet	318.38	80	254.70	.....
1396–20	"	318.38	80	354.70	.....
1460–30	Inlet	318.38	80	254.70	.....
1499–75	Inlet	89.21	80	71.37	.....
1517–33	Bridge	273.21	80	218.57	.....

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1615–55	Outlet	260.28	70	182.20	.....
1644–15	Inlet	318.38	80	254.70	.....
1645–15	Bridge	304.08	30	91.22	.....
1650–00	Outlet	260.28	80	208.22	.....
1713–90	Bridge	352.59	30	105.78	.....
1717–40	Outlet	260.28	80	208.22	.....
1745–54	Pipe Drain	1,200.00	20	240.00	.....
1778–57	Bridge	394.92	50	197.46	.....
1800–58	Bridge	375.00	50	187.50	.....
1814–00	Outlet	260.28	70	182.20	.....
1835–92	Bridge	278.50	30	83.55	.....
1864–00	Outlet	260.28	70	182.20	.....
1894–00	Outlet	260.28	70	182.20	.....
1936–57	Siphon	2,500.00	20	500.00	.....
1939–00	Outlet	260.28	60	156.17	.....
2003–38	Stop Gate	950.95	20	190.19	.....
2001–49	Bridge	375.00	70	262.50	.....
2004–49	Waste	149.38	60	89.62	.....
		$16,117.37	....	$7,542.99	.....

RTICAL IN BOOK

Main Canal Extension "A."

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Structures	$41,407.28	.....	$12,204.55	.....	.....
Excavation	84,069.40	.....	.....	$21,400.00	.....
Telephone	1,479.80	20%	295.96	.....	.....
Eng. & Supt.	12,695.64	.....	.....	.....	.....
	$139,652.12	.....	$12,500.51	$21,400.00	$148,552.12

Detail List of Structures.

Sta.	Description.	Cost.	% dep.	Amt. dep.	Pres. value.
	Waste	$4,082.87	40	$1,633.15	.....
2016–67	Stop gate	2,063.32	60	1,237.99	.....
2021–32	Outlet	215.73	10	21.57	.....
2021–30	Inlet	128.70	70	90.09	.....
2054–99	Outlet	100.00	10	10.00	.....
2076–96	Bridge	370.65	40	148.26	.....
2077–55	Outlet	143.88	10	14.39	.....
2102–34	"	110.99	10	11.10	.....
2107–54	"	143.88	10	14.39	.....
2115–17	Bridge	280.24	70	196.17	.....
2117–00	Outlet	215.73	10	21.57	.....
2120–88	"	100.00	10	10.00	.....
2127–38	"	128.70	10	12.87	.....
2138–00	"	110.99	10	11.10	.....
2152–37	"	143.88	10	14.38	.....

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2155–01	Stop gate	1,070.85	20	214.17	.....
2189–58	Outlet	100.00	10	10.00	.....
2193–30	Bridge	223.99	50	112.00	.....
2193–73	Outlet	100.00	10	10.00	.....
2205–02	Inlet	215.73	70	151.01	.....
2266–34	Bridge	200.00	10	20.00	.....
2290–14	Waste	335.08	10	33.51	.....
2299–00	Outlet	110.99	10	11.10	.....
2324–65	Inlet	189.86	20	37.97	.....
2325–03	Outlet	100.00	10	10.00	.....
2341–19	Br.	310.38	80	248.30	.....
2360–70	Outlet	110.99	10	11.10	.....
2377–24	Br.	375.00	20	75.00	.....
2383–56	Outlet	110.99	10	11.10	.....
2398–20	Inlet	327.69	20	65.53	.....
2399–43	Outlet	110.99	10	11.10	.....
2405–62	Br.	342.00	40	136.80	.....
2406–46	Outlet	215.73	10	21.57	.....
2432–30	"	327.69	10	32.77	.....
2433–90	Inlet	327.69	20	65.53	.....
2453–96	Outlet	143.88	10	14.39	.....
2459–60	"	143.88	10	14.39	.....
2460–15	Stop gate	1,090.92	10	109.09	.....
2461–67	"	1,061.03	20	212.81	.....
2485–02	Outlet	327.69	10	32.77	.....
2485–13	Inlet	327.69	20	65.53	.....
2501–54	"	327.69	20	65.53	.....
2501–54	Outlet	327.69	10	32.77	.....
2507–00	"	100.00	10	10.00	.....
2578–42	"	100.00	10	10.00	.....

Sta.	Description.	Cost.	% dep.	Amt. dep.	Pres. value.
2597–00	"	215.73	10	21.57	.....
2608–48	"	50.00	10	5.00	.....
1673					
2609–09	Outlet	75.00	10	7.50	.....
2610–12	Stop Gate	998.80	50	499.40	.....
2625–85	Outlet	215.73	10	21.57	.....
2626–13	Bridge	365.82	50	182.91	.....
2639–82	Outlet	110.99	10	11.10	.....
2659–42	"	110.99	10	11.10	.....
2669–45	"	100.00	10	10.00	.....
2680–04	Bridge	375.00	50	187.50	.....
2680–46	"	200.00	20	40.00	.....
2684–61	Outlet	50.00	10	5.00	.....
2687–09	"	215.73	10	21.57	.....
2689–63	"	50.00	10	5.00	.....
2702–63	"	100.00	10	10.00	.....
2704–85	"	215.73	10	21.57	.....
2724–12	"	50.00	10	5.00	.....
2728–70	"	215.73	10	21.57	.....
2739–32	"	75.00	10	7.50	.....
2739–74	Stop gate	1,090.92	50	545.46	.....
2740–61	Bridge	400.00	30	120.00	.....
2754–73	Outlet	100.00	10	10.00	.....
2767–51	"	100.00	10	10.00	.....
2768–04	"	215.73	10	21.57	.....
2783–26	"	100.00	10	10.00	.....
2784–63	"	50.00	10	5.00	.....
2792–40	"	358.76	10	35.88	.....

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2792–90	Inlet	358.76	10	35.88	.....
2803–88	Outlet	143.88	10	14.39	.....
2804–00	Inlet	50.00	10	5.00	.....
2815–80	Outlet	215.73	10	21.57	.....
2815–80	"	215.73	10	21.57	.....
2825–48	Bridge	349.65	40	139.86	.....
2826–73	Inlet	358.76	10	35.88	.....
2826–77	Outlet	358.76	10	35.88	.....
2832–00	"	143.88	10	14.39	.....
2846–18	"	50.00	10	5.00	.....
2856–53	Stop gate	1,385.89	50	692.95	.....
	Waste gate	981.69	50	490.85	.....
2857–05	Stop gate	1,385.89	50	692.95	.....
2876–52	Inlet	358.76	10	35.88	.....
2876–52	Outlet	358.76	10	35.88	.....
2881–61	Bridge	448.56	70	313.99	.....
2893–62	Outlet	215.73	10	21.57	.....
2897–45	"	255.75	10	25.58	.....
2907–44	"	255.75	10	25.58	.....
2908–18	Stop gate	700.48	40	280.19	.....
2910–41	Bridge	500.00	50	250.00	.....
2911–29	Outlet	215.73	10	21.57	.....
2921–78	"	125.00	10	12.50	.....
2936–45	Bridge	318.15	50	159.08	.....
2937–29	Outlet	215.73	10	21.57	.....
2937–68	"	50.00	10	5.00	.....
2941–69	"	143.88	10	14.39	.....
2947–57	Outlet	110.99	10	11.10	.....
2967–29	"	215.73	10	21.57	.....
2967–60	Stop gate	944.98	50	472.49	.....

RTICAL IN BOOK

Sta.	Description.	Cost.	% dep.	Amt. dep.	Pres. value.
2981–35	Outlet	110.99	10	11.10	.....
2994–88	"	110.99	10	11.10	.....
3003–15	"	215.73	10	21.57	.....
3007–26	"	110.99	10	11.10	.....
3027–47	"	215.73	10	21.57	.....
3048–55	"	110.99	10	11.10	.....
3063–39	"	110.99	10	11.10	.....
3068–33	"	110.99	10	11.10	.....
3069–29	"	215.73	10	21.57	.....
3069–74	Stop gate	756.12	40	302.45	.....
3077–93	Bridge	363.12	50	186.56	.....
3079–95	Outlet	143.88	10	14.39	.....
3086–24	"	143.88	10	14.39	.....
3093–03	"	215.73	10	21.57	.....
3105–30	Inlet	110.99	10	11.10	.....
3105–69	Bridge	202.65	50	101.33	.....
1674					
3118–87	Outlet	110.99	10	11.10	.....
3121–22	Outlet	255.75	10	25.58	.....
3124–97	"	100.00	10	10.00	.....
3125–11	"	50.00	10	50.00	.....
	Measuring Gates	2,494.00	10	249.40	.....
		$41,407.28	....	$12,204.55	.....

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Merced County.

Parallel Canal.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt app.	Pres. value.
Structures	$13,918.67	.....	$5,027.66	.....	.....
Excavation	39,610.60	.....	.....	$10,100.00	.....
Eng. & Supt.	5,352.93	.....	.....	.....	.....
Total	$58,882.20	.....	$5,027.66	$10,100.00	$63,954.54

Detail List of Structures.

Sta.	Description.	Cost	% dep.	(Amt. dep.)	Pres. value.
1133–50	Outlet	$125.73	10	$12.57	.....
1148–13	"	162.25	10	16.23	.....
1163–68	"	125.73	10	12.57	.....
1226–95	Outlet	125.73	10	12.57	.....
1228–86	Stop Gate	612.92	40	245.17	.....
1346–22	Waste gate	2,083.86	60	1,250.32	.....
1346–93	Stop Gate	957.77	60	574.66	.....
1380–77	Outlet	75.00	10	7.50	.....
1445–16	"	75.00	10	7.50	.....
1463–22	"	94.38	10	9.44	.....
1517–33	Bridge	357.00	80	285.60	.....
1521–51	Outlet	94.38	10	9.44	.....
1583–16	"	100.00	10	10.00	.....
1635–20	"	94.38	10	9.44	.....
1645–15	Bridge	304.08	30	91.22	.....
1656–33	Outlet	254.24	10	25.42	.....
1695–07	"	94.38	10	9.44	.....

TICAL IN BOOK

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Pres. value.
1713–00	"	254.24	10	25.42	.....
1713–90	Bridge	349.50	30	104.85	.....
1717–68	Outlet	94.38	10	9.44	.....
1721–06	"	94.38	10	9.44	.....
1732–28	"	125.73	10	12.57	.....
1761–77	"	94.38	10	9.44	.....
1777–25	"	254.24	10	25.42	.....
1778–57	Stop Gate	999.98	75	750.00	.....
1800–38	Bridge	400.00	30	120.00	.....
1814–41	Outlet	254.24	10	25.42	.....
825–93	"	80.00	10	8.00	.....
1829–00	"	254.24	10	25.42	.....
1834–00	"	94.38	10	9.44	.....
1835–82	Bridge	321.72	50	160.36	.....
1846–80	Outlet	254.24	10	25.42	.....
1858–00	"	187.77	10	18.78	.....
1863–57	"	94.38	10	9.44	.....
1864–00	"	254.24	10	25.42	.....
1883–00	"	143.30	10	14.33	.....
1893–21	"	254.24	10	25.42	.....
1893–54	Stop Gate	855.80	50	427.90	.....
1894–61	Bridge	500.00	40	200.00	.....
1938–00	Bridge	500.00	50	250.00	.....
1938–75	Outlet	254.24	10	25.42	.....
1977–99	"	254.24	10	25.42	.....
1994–00	"	50.00	10	5.00	.....
	Meas. Gates	908.00	10	90.80	.....
		$13,918.67	....	$5,027.66	.....

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Colony-Canal.

Item.	Cost (Goodwin).	% dep.	(Amt. dep.)	Amt. app.	Pres. value.
Structure	$10,646.28	.....	$3,298.64	.....	.....
Excavation	2,690.80	.....	.....	$684.00	.....
Eng. & Supt	1,333.72	.....	.....	.....	.....
	$14,670.80	.....	$3,298.64	$684.00	$12,056.16

Detail List of Structures.

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Present value.
467–42	Outlet	$263.39	20	$52.68	.....
470–00	"	246.40	20	49.28	.....
479–64	"	246.40	20	49.28	.....
479–64	"	246.40	20	49.28	.....
479–86	Stop gate	727.32	30	218.20	.....
481–60	Outlet	41.00	20	8.20	.....
492–85	Bridge	251.68	50	125.84	.....
493–06	Outlet	246.40	20	49.28	.....
496–84	"	52.00	20	10.40	.....
499–24	"	474.76	40	189.90	.....
501–50	"	727.32	40	290.93	.....
501–81	"	52.00	20	10.40	.....
501–90	"	41.00	20	8.20	.....
505–97	"	246.40	20	49.28	.....
505–97	"	52.00	20	10.40	.....

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Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Present value.
512–37	"	41.00	20	8.20	.....
514–97	"	41.00	20	8.20	.....
519–05	"	246.40	20	492.80	.....
519–20	"	52.00	20	10.40	.....
523–60	"	41.00	20	8.20	.....
525–64	Bridge	250.00	20	50.00	.....
528–22	Outlet	263.39	20	52.68	.....
531–77	"	246.40	20	49.28	.....
538–87	"	263.39	20	52.68	.....
540–05	Stop gate	727.32	20	145.46	.....
546–51	Outlet	41.00	20	8.20	.....
552–48	"	246.40	20	49.28	.....
555–10	"	41.00	20	8.20	.....
559–45	"	52.00	20	10.40	.....
561–33	Pipe-box	600.00	20	120.00	.....
566–15	Outlet	263.39	20	52.68	.....
569–31	"	246.40	20	49.28	.....
570–85	Head Gate # 4	337.79	40	135.11	.....
574–57	Outlet	263.39	20	52.68	.....
756–55	"	246.40	20	49.28	.....
579–29	Bridge	317.31	50	158.66	.....
581–70	Outlet	290.02	20	58.00	.....
584–55	Waste Gate	1,119.81	40	447.92	.....
	Measuring	495.00	10	49.50	.....
	Gates	$10,646.28	....	$3,298.64	.....

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Colony Canal Extension.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	(Amt. app.)	Pres. value.
Structures	$9,251.47	.....	$1,898.45	.....	.....
Earth exca	6,811.20	.....	.....	$1,730.00	.....
Eng. & Supt.	1,606.26	.....	.....	.....	.....
Total	$17,668.93	.....	$1,898.45	$1,730.00	$17,500.48

Detail List of Structures.

Sta.	Description.	Cost.	% dep.	Amt. dep.	Pres. value.
586–31	Outlet	$60.50	20	$12.10	.....
590–85	"	52.00	20	10.40	.....
594–93	Stop gate	604.34	20	241.74	.....
600–25	Outlet	41.00	..	8.20	.....
602–27	"	41.00	..	8.20	.....
607–85	"	41.00	..	8.20	.....
608–65	Pipe Box	400.00	..	80.00	.....
611–19	Outlet	60.50	..	12.10	.....
613–15	"	52.00	..	10.40	.....
618–72	"	60.50	..	12.10	.....
627–17	"	60.50	..	12.10	.....
627–75	"	52.00	..	10.40	.....
634–27	"	41.00	..	8.20	.....
637–55	"	41.00	..	8.20	.....
643–63	"	41.00	..	8.20	.....
646–52	"	41.00	..	8.20	.....

VERTICAL IN BOOK

Sta.	Description.	Cost	% dep.	Amt. dep.	Pres. value.
650–00	"	90.20	..	18.04	.....
650–62	"	41.00	..	8.20	.....
651–03	Stop Gate	727.32	..	145.46	.....
656–95	Outlet	41.00	..	8.20	.....
658–95	"	41.00	..	8.20	.....
659–55	Bridge	200.00	..	40.00	.....
660–98	Outlet	41.00	..	8.20	.....
663–62	Bridge	200.08	..	100.04	.....
664–60	Outlet	41.00	..	8.20	.....
667–68	"	75.00	..	15.00	.....
668–26	"	60.50	..	12.10	.....
668–98	Stop Gate	727.32	..	72.73	.....
675–00	Outlet	41.00	..	8.20	.....
676–38	Outlet	52.00	..	10.40	.....
678–07	"	75.00	..	15.00	.....
678–76	Stop Gate	604.34	..	120.87	.....
683–13	Outlet	75.00	..	15.00	.....
683–75	"	60.50	..	12.10	.....
686–79	Outlet	75.00	..	15.00	.....
689–55	"	75.00	..	15.00	.....
694–91	"	60.50	..	12.10	.....
696–00	"	60.50	..	12.10	.....
696–73	Stop Gate	727.32	..	145.46	.....
703–06	Outlet	41.00	..	8.20	.....
706–79	"	75.00	..	15.00	.....
709–74	Outlet	41.00	..	8.20	.....
711–13	"	41.00	..	8.20	.....
717–20	"	41.00	..	8.20	.....
719–91	Bridge	200.00	..	40.00	.....

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721–00	Outlet	$60.50	20	12.10	.....	
723–39	"	60.50	20	12.10	.....	
723–57	"	225.00	20	45.00	.....	
724–32	Stop Gate	604.34	20	120.87	.....	
730–30	Outlet	52.00	20	10.40	.....	
733–91	"	52.00	20	10.40	.....	
736–60	"	60.50	20	12.10	.....	
738–91	"	52.00	20	10.40	.....	
741–05	"	60.50	20	12.10	.....	
745–16	Pipe Box	400.00	20	80.00	.....	
748–22	Outlet	52.00	20	10.40	.....	
750–09	"	60.50	20	12.10	.....	
752–00	"	52.00	20	10.40	.....	
754–14	Stop gate	539.71	20	107.94	.....	
	Meas. Gates	600.00	10	60.00	.....	
		$6,251.47	....	$1,698.45	.....	

1679 **Merced County.**

Colony Canal Branch # 1.

Summary.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	(Amt. app.)	Pres. value.
Structures	$944.75	.....	$281.58	.....	.....
Excavation	4,922.00	.....	.....	$1,250.00	.....
Eng. & Supt	586.67	.....	.....	.....	.....
Total	$6,453.42	.....	$281.58	$1,250.00	$7,421.84

Detail List of Structures.

Sta	Description.	Cost.	% dep.	(Amt. dep.)	Present value.
152–01	Bridge	$114.77	50%	$57.39	.....
152–33	Outlet	223.08	20%	44.62	.....
153–30	"	25.00	20%	5.00	.....
153–26	Stop gates	581.90	30	174.57	.....
Total		$944.75	....	$281.58	.....

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Colony Canal Branch # 2.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Structure	$6,966.10	.....	$1,901.82	.....	.....
Excavation	5,093.20	.....	.....	$1,300.00	.....
Eng. & Supt	1,205.93	.....	.....	.....	.....
Total	$13,265.23	.....	$1,901.82	$1,300.00	$12,663.41

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Detail List of Structures.

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Present value.
56–24	Outlet	$87.78	20%	$17.56	.....
56–35	"	87.78	20	17.56	.....
58–00	"	70.00	20	14.00	.....
58–08	Bridge	144.90	40	57.96	.....
58–40	Outlet	87.78	20	17.56	.....
59–03	"	25.00	20	5.00	.....
59–36	Stop Gate	467.94	30	140.38	.....
74–20	Outlet	87.78	20	17.56	.....
74–31	"	87.78	20	17.56	.....
74–59	"	87.78	20	17.56	.....
74–87	Stop Gate	467.94	40	187.18	.....
75–39	Outlet	184.80	20	36.96	.....
81–10	"	30.00	20	6.00	.....
86–64	"	30.00	20	6.00	.....
88–52	Bridge	175.00	40	70.00	.....
88–93	Outlet	184.80	20	36.96	.....
90–25	"	30.00	20	6.00	.....
90–38	Stop Gate	467.94	30	140.38	.....
95–12	Outlet	30.00	20	6.00	.....
108–14	"	30.00	20	6.00	.....
11–30	"	30.00	20	6.00	.....
114–80	"	30.00	20	6.00	.....
114–98	Bridge	144.90	40	57.96	.....
115–27	Outlet	25.00	20	5.00	.....
114–37	"	184.80	20	36.96	.....
115–37	"	184.80	20	36.96	.....

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Present value.
115–94	Outlet	20.00	20	4.00	.....
116–10	Stop Gate	467.94	30	140.38	.....
122–58	Outlet	25.00	20	5.00	.....
128–23	"	184.80	20	36.96	.....
141–10	"	184.80	20	36.96	.....
141–45	Bridge	144.90	40	57.96	.....
142–13	Stop Gate	467.94	30	140.38	.....
167–54	Outlet	184.80	20	36.96	.....
169–88	Stop Gate	467.94	30	140.38	.....
192–23	"	467.94	30	140.38	.....
193–43	Outlet	72.60	20	14.52	.....
235–00	Stop gate	467.94	30	140.38	.....
	Meas. Gates	345.00	10	34.50	.....
	Total	$6,966.10	....	$1,901.82	.....

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Merced County.

Colony Canal Branch # 3.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	(Amt. dep.)	Pres. value.
Structures	$8,930.53	.....	$2,193.78	.....	.....
Excavation	4,685.68	.....	.....	$1,200.00	.....
Eng. & Supt.	1,361.62	.....	.....	.....	.....
Total	$14,977.83	.....	$2,193.78	$1,200.00	$13,984.05

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Detail List of Structures.

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Present value.
6–86	Outlet	$105.71	20	$21.14	.....
7–07	Outlet	52.00	20	10.40	.....
7–15	"	105.71	20	21.14	.....
11–42	"	105.71	20	21.14	.....
15–00	"	105.71	20	21.14	.....
18–77	"	105.71	20	21.14	.....
22–97	"	52.00	20	10.40	.....
25–42	Bridge	196.56	40	78.62	.....
25–81	Outlet	105.71	20	21.14	.....
26–09	Stop Gate	533.22	30	159.97	.....
30–00	Outlet	105.71	20	21.14	.....
39–00	Outlet	28.60	20	5.72	.....
41–50	Outlet	52.00	20	10.40	.....
43–50	"	105.71	20	21.14	.....
46–50	"	41.00	20	8.20	.....
48–51	"	41.00	20	8.20	.....
51–31	"	119.73	20	23.95	.....
52–43	Bridge	196.56	40	78.62	.....
52–70	Outlet	119.73	20	23.95	.....
53–61	"	105.71	20	21.14	.....
53–91	Stop gate	476.74	30	143.02	.....
62–08	Outlet	41.00	20	8.20	.....
67–53	"	52.00	20	10.40	.....
76–41	"	52.00	20	10.40	.....
77–55	"	68.53	20	13.71	.....
77–55	"	68.53	20	13.71	.....
82–48	Outlet	52.00	20	10.40	.....
87–71	"	52.00	20	10.40	.....

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Present. value.
90–56	Bridge	148.05	40	59.22	.....
96–00	Outlet	218.74	20	43.75	.....
103–07	Outlet	218.74	20	43.75	.....
104–56	Bridge	148.05	40	59.22	.....
109–74	Outlet	52.00	20	10.40	.....
111–25	"	25.00	20	5.00	.....
113–22	Stop gate	476.74	30	143.02	.....
118–24	Outlet	218.74	20	43.75	.....
131–44	"	296.32	20	59.26	.....
132–11	Stop gate	476.74	30	143.02	.....
136–24	Outlet	41.00	20	8.20	.....
142–32	"	41.00	20	8.20	.....
145–71	"	41.00	20	8.20	.....
153–81	"	52.00	20	10.40	.....
156–00	"	52.00	20	10.40	.....
157–30	"	296.32	20	59.26	.....
167–72	"	35.00	20	7.00	.....
171–00	"	369.82	20	73.96	.....
171–64	Stop gate	476.74	30	143.02	.....
1682					
176–39	Pipe box	250.00	30	75.00	.....
178–79	Outlet	105.71	20	21.14	.....
183–91	Bridge	150.25	40	60.10	.....
184–31	Outlet	200.00	20	40.00	.....
184–40	"	218.74	20	43.75	.....
185–80	"	41.00	20	8.20	.....
187–19	Stop gate	476.74	30	143.02	.....
	Meas. Gates	557.50	10	55.75	.....
	Total	$8,930.53	....	$2,193.78	.....

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Colony Canal Branch 4.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Structures	$7,120.05	.....	$1,873.05	.....	.....
Exc.	1,354.08	.....	.....	$345.00	.....
Eng. & Supt.	847.41	.....	.....	.....	.....
	$9,321.54	.....	$1,873.05	$345.00	$7,793.49

Detail List of Structures.

Sta.	Description.	Cost.	% dep.	Amt. dep.	Pres. value.
3–23	Outlet	$41.00	20	$8.20	.....
3–83	"	41.00	20	8.20	.....
7–76	"	41.00	20	8.20	.....
10–28	"	41.00	20	8.20	.....
11–79	"	41.00	20	8.20	.....
11–90	"	41.00	20	8.20	.....
14–19	"	41.00	20	8.20	.....
14–00	Stop gate	363.80	30	109.14	.....
20–14	Outlet	41.00	20	8.20	.....
20–30	Bridge	109.20	40	43.68	.....
21–04	Outlet	52.00	20	10.40	.....
21–36	"	41.00	20	8.20	.....
24–89	"	52.00	20	10.40	.....
27–20	"	41.00	20	8.20	.....
20–30	Bridge	109.20	40	43.68	.....
30–60	Outlet	87.80	20	17.56	.....
33–00	"	87.80	20	17.56	.....

VERTICAL IN BOOK

Sta.	Description.	Cost.	% dep.	Amt. dep.	Pres. value.
35–72	"	41.00	20	8.20	.....
36–86	Bridge	175.35	40	70.14	.....
37–17	Outlet	87.80	20	17.56	.....
37–66	"	41.00	20	8.20	.....
37–96	Stop gate	363.80	30	109.14	.....
44–33	Outlet	41.00	20	8.20	.....
54–75	"	41.00	20	8.20	.....
55–00	"	150.00	20	30.00	.....
57–61	"	41.00	20	8.20	.....
58–90	"	150.00	20	30.00	.....
59–44	Stop gate	363.80	30	109.14	.....
65–90	Bridge	130.00	40	52.00	.....
66–24	Outlet	250.00	20	50.00	.....
69–50	"	41.00	20	8.20	.....
69–83	"	25.00	20	5.00	.....
70–00	Bridge	130.00	40	52.00	.....
72–41	Outlet	41.00	20	8.20	.....
75–87	"	200.00	20	40.00	.....
76–01	"	41.00	20	8.20	.....
76–61	Stop gate	363.80	30	109.14	.....
81–46	Outlet	41.00	20	8.20	.....
84–08	"	41.00	20	8.20	.....
88–12	"	41.00	20	8.20	.....
88–25	"	150.00	20	30.00	.....
91–45	"	41.00	20	8.20	.....
91–85	"	41.00	20	8.20	.....
92–04	Stop gate	363.80	30	109.14	.....
95–50	Outlet	41.00	20	8.20	.....
96–18	"	41.00	20	8.20	.....

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97–79	"	41.00	20	8.20	.....
1684					
102–37	Bridge	125.00	40	50.00	.....
102–53	Outlet	41.00	20	8.20	.....
102–77	"	150.00	20	30.00	.....
105–45	"	41.00	20	8.20	.....
110–09	"	41.00	20	8.20	.....
110–19	"	41.00	20	8.20	.....
116–95	"	41.00	20	8.20	.....
117–00	"	180.00	20	36.00	.....
121–59	Stop gate	363.80	30	109.14	.....
122–60	Outlet	41.00	20	8.20	.....
124–92	"	41.00	20	8.20	.....
125–00	"	41.00	20	8.20	.....
127–22	"	52.00	20	10.40	.....
130–55	Bridge	120.00	40	48.00	.....
133–00	Outlet	25.00	20	5.00	.....
136–00	Stop gate	363.80	30	109.14	.....
153–54	"	363.80	30	109.14	.....
	Measuring gates	217.50	10	21.75	.....
	Total	$7,120.05	....	$1,873.05	.....

Merced Co.

Outside Canal.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Structures	$29,914.52	.....	$7,123.56	.....	.....
Excavation	44,522.50	.....	.....	$11,350.00	.....
Side Canal	4,396.00	.....	.....	.....	.....
Eng. & Supt.	7,883.30	.....	.....	.....	.....
	$86,716.32	.....	$7,123.56	$11,350.00	$90,942.76

Detail List of Structures.

Sta.	Description.	Cost	% dep.	Amt. dep.	Pres. value.
1024–49	Br.	$315.63	30	$94.69	.....
1024–49	" s.	46.72	30	14.02	.....
1105–50	Stop gates	159.31	20	31.86	.....
1106–07	Outlet	384.91	10	38.49	.....
1106–07	Bulkheads	86.56	20	17.31	.....
1106–50	Stop gates	159.31	20	31.86	.....
1107–65	"	975.87	40	390.35	.....
1222–00	"	159.31	20	31.86	.....
1226–02	Outlet	384.91	10	38.49	.....
1226–02	Bulkheads	86.56	40	34.62	.....
1227–00	Stop gates	159.31	20	31.86	.....
1227–49	"	975.87	40	390.35	.....
1296–00	" s.	159.31	20	31.86	.....
1297–00	" s.	159.31	20	31.86	.....

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1341–84	Outlet	384.91	10	38.49	.....
1368–89	Bridge	315.63	40	126.25	.....
1368–89	" s	46.72	40	18.69	.....
1392–00	Stop gates	159.31	20	31.86	.....
1392–76	Outlet	418.12	10	41.81	.....
1392–76	Bulkhead	86.56	40	34.62	.....
1394–32	Stop gate	975.87	40	390.35	.....
1408–00	" s	159.31	20	31.86	.....
1442–00	" s	159.31	20	31.86	.....
1459–75	Outlet	384.91	10	38.49	.....
1475–50	"	384.91	40	153.96	.....
1482–00	Stop gate	159.31	20	31.86	.....
1490–97	Bridge	600.51	20	120.10	.....
1490–97	" s	46.72	20	9.35	.....
1521–00	Stop gates	159.31	20	31.86	.....
1532–30	Outlet	384.91	10	38.49	.....
1532–52	"	418.12	10	41.81	.....
1532–58	Bulkhead	86.56	40	34.62	.....
1534–23	Stop gate	975.87	30	292.76	.....
1543–50	" s	159.31	20	31.86	.....
1552–00	" s	159.31	20	31.86	.....
1569–82	Bridge	600.51	20	120.10	.....
1575–00	Stop gates	159.31	20	31.86	.....
1607–61	Bridge	747.60	30	224.28	.....
1607–61	Stop gates	159.31	20	31.86	.....
1607–61	Bridges	46.72	20	9.35	.....
1615–00	Stop gates	159.31	20	31.86	.....
1628–00	" s	159.31	20	31.86	.....
1659–29	Outlet	418.12	10	41.81	.....
1659–29	Bulkheads	86.56	40	34.62	.....

RTICAL IN BOOK

Sta.	Description.	Cost	% dep.	Amt. dep.	Pres. value.
1659–29	Stop gates	159.31	20	31.86	.....
1686					
1660–00	Stop gates	159.31	20	31.86	.....
1660–53	"	975.87	30	292.76	.....
1701–64	Outlet	384.91	20	76.98	.....
1729–00	Stop gates	159.31	20	31.86	.....
1729–56	Bridge	747.60	60	448.56	.....
1729–56	Bridge s	46.72	60	28.03	.....
1744–72	Outlet	402.65	10	40.27	.....
1780–00	Stop gates	159.31	20	31.86	.....
1794–20	Outlet	402.65	10	40.27	.....
1795–30	Stop gate	1,079.05	40	431.62	.....
1799–28	Waste gate	4,673.68	20	934.73	.....
1799–28	"	5,641.02	20	1,128.20	.....
	Gates on side canal	875.00	20	175.00	.....
	Measuring gates	673.00	10	67.30	.....
		$29,914.52	....	$7,123.56	.....

1687

Merced County.

Outside Canal Extension.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Structure	$22,360.48	.....	$4,427.79	.....	.....
Excavation	45,665.50	.....	.....	$11,600.00	.....
Eng. & Supt	6,802.59	.....	.....	.....	.....
Total	$74,828.57	.....	$4,427.79	$11,600.00	$82,000.78

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Detail List of Structures.

Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Pres. value.
1800–31	Stop gate	$1,172.60	30	$351.78	.....
1803–06	Bridge	392.28	20	78.46	.....
1823–05	Outlet	371.30	10	37.13	.....
1852–09	Bridge	715.05	10	71.51	.....
1852–65	Outlet	371.30	10	37.13	.....
1899–92	Bridge	575.29	30	172.59	.....
1915–73	Outlet	371.30	10	37.13	.....
1916–23	Bridge	715.05	30	214.52	.....
1955–22	Outlet	371.30	5	18.57	.....
1977–61	Bridge	715.05	30	214.52	.....
2059–84	Headgate	1,074.83	20	214.97	.....
2065–52	Bridge	392.28	30	117.68	.....
2066–63	Outlet	371.30	5	18.56	.....
2069–71	Stop gate	727.32	20	145.46	.....
2137–18	Outlet (2)	371.30	10	37.13	.....
2155–84	Bridge	308.49	50	154.25	.....
2176–30	Outlet	371.30	10	37.13	.....
2211–50	"	250.00	10	25.00	.....
2236–76	Bridge	575.29	30	172.59	.....
2242–61	Outlet	371.30	10	37.13	.....
2259–89	Stop gate	727.32	10	72.73	.....
2262–79	Waste Gate	1,075.71	30	322.71	.....
2270–20	Outlet	371.30	10	37.15	.....
2271–07	Stop gate	727.32	10	72.73	.....
2338–57	Outlet	371.30	10	37.13	.....
2351–91	Bridge	715.05	30	214.52	.....
2362–44	Outlet	371.30	10	37.13	.....

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Sta.	Description.	Cost.	% dep.	(Amt. dep.)	Pres. value.
2386–25	Outlet	371.30	10	37.13	.....
2386–98	Stop gate	727.32	10	72.73	.....
2408–13	Outlet	371.30	10	37.13	.....
2451–47	"	371.30	10	37.13	.....
2461–50	Bridge	575.29	40	230.12	.....
2491–28	Outlet	371.30	10	37.13	.....
2522–26	"	371.30	10	37.13	.....
2522–95	Bridge	575.29	40	230.12	.....
2523–86	Head gate	827.22	40	330.89	.....
2536–04	Outlet	371.30	10	37.13	.....
2537–45	Stop gate	727.32	10	72.73	.....
2881–31	"	527.01	30	158.10	.....
	Meas. Gates	1,230.00	10	123.00	.....
		$22,360.48	....	$4,427.79	.....

1688

Merced County.

Outlet Canal # 4.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Drops	$2,587.20	30%	$721.56	.....	.....
Excavation	489.44	.....	.....	$125.00	.....
Eng. & Supt	307.66	.....	.....	.....	.....
Total	$3,384.30	.....	$721.56	$125.00	$2,787.74

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Outlet Canal # 5.

Item.	Cost (Goodwin).	% dep.	Amt. dep.	Amt. app.	Pres. value.
Drops	$5,256.02	20%	$1,051.20	.....	.....
Excavation	1,856.00	.....	.....	$472.00	.....
Eng. & Supt.	711.20	.....	.....	.....	.....
	$7,823.22	.....	$1,051.20	$472.00	$7,244.02

1689

Stanislaus County.

Main Canal Extension "A."

Item.	Cost (Goodwin).	% dep.	Amt. dep.	(Amt. app.)	Pres. value.
Structures	$12,902.98	.....	$3,949.77	.....	.....
Excavation	23,250.40	.....	.....	$5,670.00	.....
Tele. Line	541.10	20%	108.22	.....	.....
Eng. & Supt.	3,669.44	.....	.....	.....	.....
	$40,363.92	.....	$4,057.99	$5,670.00	$41,975.93

Detail List of Structures.

Sta.	Description.	Cost.	% dep.	Amt dep.	Present value.
3135–62	Bridge	$310.17	40	$124.07	.....
3135–78	Outlet	109.17	10	10.92	.....
3144–28	"	109.17	10	10.92	.....
3155–09	"	224.51	10	22.45	.....
3155–62	Bridge	421.05	40	168.42	.....
3158–40	Outlet	98.28	10	9.83	.....
					.....

Sta.	Description.	Cost.	% dep.	Amt. dep.	Present value.
3170–30	"	98.28	10	9.83	.....
3178–60	"	224.51	10	22.45	.....
3179–17	Stop Gate	937.28	60	562.37	.....
3197–61	Outlet	224.51	10	22.45	.....
3191–98	Inlet	224.51	80	179.61	.....
3202–31	Outlet	109.17	10	10.92	.....
3218–06	"	50.00	10	5.00	.....
3223–67	"	98.28	10	9.83	.....
3237–08	"	224.51	10	22.45	.....
3251–89	Bridge	344.82	80	275.86	.....
3252–43	Outlet	98.28	10	9.83	.....
3253–69	Bridge	367.71	20	73.54	.....
3277–69	Outlet	224.51	10	22.45	.....
3283–77	"	224.51	10	22.45	.....
3292–63	Bridge	320.25	80	256.20	.....
3301–97	Outlet	90.00	10	9.00	.....
3302–64	Stop gate	840.23	20	168.05	.....
3316–67	Outlet	75.00	10	7.50	.....
3330–80	"	224.51	10	22.45	.....
3356–20	"	224.51	10	22.45	.....
3361–57	"	75.00	10	7.50	.....
3366–38	"	224.51	10	22.45	.....
3378–22	Bridge	376.95	20	75.39	.....
3393–00	Outlet	75.00	10	7.50	.....
3409–20	Inlet	75.00	50	37.50	.....
3409–25	Outlet	224.51	10	22.45	.....
3409–72	Stop gate	826.21	50	41.31	.....
3432–02	Bridge	345.45	50	172.73	.....
3432–40	Outlet	109.17	10	10.92	.....

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3438–90	"		98.28	10	9.83	.....
3452–30	"		224.51	10	22.45	.....
3465–46	"		98.28	10	9.83	.....
3473–61	"		98.28	10	9.83	.....
3480–00	"		98.28	10	9.83	.....
3489–06	"		98.28	10	9.83	.....
3489–33	Bridge		290.85	50	145.43	.....
3501–70	Outlet		98.28	10	9.83	.....
3509–35	Inlet		224.51	20	44.90	.....
3509–75	Outlet		224.51	10	22.45	.....
1690						.....
3520–05	Outlet		$98.28	10	9.83	.....
3533–39	Inlet		85.00	20	17.00	.....
3539–85	Inlet		224.51	20	44.90	.....
3540–50	Waste gate		1,276.60	80	1,021.28	.....
	Meas. Gate		835.00	10	83.50	.....
			$12,902.98	....	$3,949.77	.....

1691

Stanislaus County.

Main Canal Extension "B."

Item.	Cost (Goodwin).	% dep.	Amt. dep.	(Amt. app.)	Pres. value.
Structures	$12,354.04	.....	$4,146.57	.....	.....
Excavation	13,835.40	.....	.....	$3,540.00	.....
Line	289.10	20%	57.82	.....	.....
Eng. & Supt.	2,618.96	.....	.....	.....	.....
Total	$29,097.50	.....	$4,204.39	$3,540.00	$28,433.11

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Detail List of Structures.

Sta	Description.	Cost.	% dep.	(Amt. dep.)	Pres. value.
3556–40	Stop gate	$2,034.07	60%	$1,220.44	.....
3557–25	Waste Gate	3,000.00	20	600.00	.....
3558–13	Stop gate	2,034.07	60	1,220.44	.....
3590–35	Bridge	271.11	30	81.33	.....
3592–35	Outlet	224.51	10	22.45	.....
3600–00	Outlet	75.00	10	7.50	.....
3602–99	Outlet	136.40	10	13.64	.....
3603–18	Outlet	136.40	10	13.64	.....
3605–57	Outlet	224.51	10	22.45	.....
3613–85	Outlet	101.20	10	10.12	.....
3624–73	"	101.20	10	10.12	.....
3633–01	Bridge	313.53	30	94.06	.....
3645–34	Outlet	101.20	10	10.12	.....
3649–66	Outlet	101.20	10	10.12	.....
3653–50	Bridge	500.00	30	150.00	.....
3661–88	Outlet	101.20	10	10.12	.....
3666–38	"	65.00	10	6.50	.....
3677–68	"	224.51	10	22.45	.....
3689–76	"	224.51	10	22.45	.....
3696–18	"	101.20	10	10.12	.....
3696–62	Stop gate	525.47	70	367.83	.....
3710–27	Outlet	224.51	10	22.45	.....
3727–65	"	224.51	10	22.45	.....
3743–86	"	101.20	10	10.12	.....
3755–09	"	224.51	10	22.45	.....
3755–19	Outlet	224.51	10	22.45	.....

3755–39	Waste gate	224.51	10	67.35	.....
	Meas. Gates	534.00	10	53.40	.....
	Total	$12,354.04	....	$4,146.57	.....

1692

Stanislaus County.

Oristimba Branch Canal.

Item.	Cost.	% dep.	Amt. dep.	Amt. app.	Pres. value.
6 stop gates @ $150	$900.00	30%	$270.00	.....	.....
7 outlet gates @ $35	245.00	30%	73.50	.....	.....
Flume	1,174.20	50%	587.10	.....	.....
Earth Excavation	770.00	.....	.....	$190.00	.....
Eng. & Supt	231.80	.....	.....	.....	.....
Total	$3,321.00	.....	$930.60	$190.00	$2,580.40

Endorsed: Complainant's Exhibit No. 26. E. H. H., Master, etc. Filed May 14, 1910. Southard Hoffman, clerk, by J. A. Schaertzer, Deputy clerk.

1693 COMPLAINANT'S EXHIBIT 27.

W. C. H./2. OCTOBER 9TH, '8.

San Joaquin & Kings River Canal & Irrigation Company, Incorporated, Office.

GENTLEMEN: I beg to hand you herewith computation of Miller & Lux Irrigation from the canal during the fiscal year 1907-08, showing also the method of arriving at the results below given.

The total Miller & Lux land irrigated from the canal was 58,912.9 acres, of which 48,926.44 acres were irrigated from the Main Canal and its branches. For the irrigation of this land 62,429.61 second feet were carried for twenty-four hours, making 1,276 second feet for twenty-four hours per acre.

In Fresno County 28,571.3 acres were irrigated, which at the rate above mentioned would take 36,456.93 second feet for twenty-four hours, or 57.9 per cent. of the whole amount.

In Merced County 20,355.1 acres were irrigated, which at the same rate would require 25,973.11 second feet for twenty-four hours, or 42.1 per cent of the whole.

In Stanislaus County 20 acres were irrigated.

The excess over 760 second feet in the canal irrigating Miller & Lux lands was 35,994.69 second feet, leaving 26,435.92 second feet of the water which went on Miller & Lux lands taken from the 760 second feet allowed the Canal Company for non-riparian

1694 lands.

The following land consequently was irrigated from the 700 feet belonging to the Canal Company:

In Fresno County: 57.9 per cent of 26,435.92 second feet equals 15,306.40 second feet, which at the rate of 1.276 second feet per acre would irrigate 11,995.61 acres.

In Merced County: 42.1 per cent of 26,435.92 second feet equals 11,125.97 second feet, at 1.276 second feet per acre would irrigate 8,719.41 acres.

The balance was irrigated from excess water as follows:

Fresno County, 16,576.69 acres

Merced County, 11,635.69 "

The total amount of riparian land, which was irrigated for Miller & Lux during the season 1907-08, was 12,058.8 in Fresno County, or 42.2 per cent of the whole, and 12,232.5 in Merced County, or 60.1% of the whole; consequently the portion of the excess land irrigated, which was riparian, was as follows:

In Fresno County: 42.2% of 16,575.69 equals 6994.94 acres.

In Merced County: 60.1% of 11,635.69 equals 6993.04 acres.

This leaves a balance of non-riparian Miller & Lux land irrigated from the excess water carried in the Canal, for which the Canal Company has no right to collect, of 9580.75 acres in Fresno County, and 4,642.65 acres in Merced County, for which 12,171.04 second feet of water were used in Fresno County, and 5,924.02 second feet were used in Merced County, and this is the amount for which car-

riage may be charged for 3.2 miles from the inlet gate of the Helm Canal to the head of the Poso Canal, where this water was delivered again to Miller & Lux. This water was carried for Miller & 1695 Lux for the reason that the Helm Canal is out of commission for these three miles, and would have required some trouble and expense to repair in order to carry this amount of water.

This makes the total Miller & Lux account as follows:

Land Irrigated by Canal Company.

Fresno County:

Main Canal	11995.61	acres
Outside Canal	5544.40	"
Excess water on riparian lands under Main Canal	6994.94	"
Total	24,534.95	"

@85¢ equals $20854.71.

Merced County:

Main Canal	8719.41	acres
Riparian lands under Main Canal irrigated with excess water	6993.04	"
	15,712.45	"

The total acres irrigated for two crops was 7189.5, being 35.3 per cent of the total irrigated in Merced County. Consequently 64.7 per cent of 15,712.45 acres, or 10,165.96 acres are chargeable at the rate of $1.25 per acre equals $12,707.45.

Land chargeable at $1.65 per acre is as follows:

4442.10	acres	under Outside Canal
5546.49	"	of two crop irrigation under Main Canal
Total 9988.59	"	equals $16,481.17.

Stanislaus County:

20 acres were irrigated at $1.50 equals $30.00.

Carrying charge 18,095.06 second feet 3.2 miles equals 57,904.19 second feet miles @ ½¢ per second foot mile equals $289.52.

Summary.

Fresno County	24,534.95	acres	$20,854.71
Merced County	9,988.59	"	16,481.17
" "	10,165.96	"	12,707.45
Stanislaus County	20	"	30.00
Water carried for Miller & Lux miles	57,904.19	second foot	289.52
Total			$50,362.85

Yours truly, W. C. HAMMATT.

1696 OCTOBER 30, '8.

S. J. & K. R. C. & I. Co., Inc., San Francisco.

GENTLEMEN: I hand you herewith revised report of Miller & Lux Irrigation for 1907-08. The method of obtaining it corresponds to that used in the previous report, the results merely being revised on account of certain errors found in the irrigation acreages previously reported. This is now segregated by farm.

Yours truly, W. C. HAMMATT.

W. C. H./D.

1697 *Miller & Lux Water Bill.*

1907–8.

Total land irrigated with 760 second feet—
11995.61 acres in Fresno Co.
8719.41 " " Merced "

Total Riparian Lands Irrigated from excess water—
Fresno Co..... 41.4% of 16575.69 equals 6862.34 acres.
Merced "
1 crop..... 39.8% of 11635.69 " 4631.00 "
2 crops..... 22.4% of 11635.69 " 2606.39 "

Balance—N. R. lands Irrigated from excess water—
Fresno Co.—9713.35 acres distributed as follows:

Poso Farm	30.6%	equals	2972.26 acres
Colony "	1.1%	"	109.05 "
Dos Palos "	68.3%	"	6632.02 "

Merced Co. 2893.14 acres irrigated for 1 crop distributed as follows:

Dos Palos Farm	45.5%	equals	1316.38 acres
Los Banos "	54.5%	"	1576.76 "

Also 1505.16 acres irrigated for 2 crops distributed as follows:

Colony Farm	12.9%	equals	194.17 acres
Los Banos "	87.1%	"	1310.99 "

Summary.

Los Ba-os Farm:

Stanislaus Co...	20 acres	1 crop	@ 1.25 equals.	$25.00
Merced Co.	4940.30 acres			
less	1576.76 "			
	3363.54 "	1 crop	@ 1.25 equals.	4204.43
	7290.60 "			
less	1310.99 "			
	5979.61 "	2 crops	@ 1.65 "	9866.36
Also 2887.75 acres N. R. land irrigated from 3644.77 second feet carried 25 miles equals 91119.25 s. f. m @ $0.00½ "				455.60
Total				14551.39

Santa Rita Farm:

Merced Co.	1254.30 acres	@ 1.25 equals.....	1567.87
	418.10 "	@ 1.65 "	689.87
Total			2257.74

1698

Colony Farm:

Merced Co.	2958.00 acres	@ 1.25 equals.....		$3697.50
	3282.20 "			
less	194.17 "			
	3088.03 "	@ 1.65 "	.....	5095.25
Fresno Co.	1206.70 "			
Less	109.05 "			
	1097.65 "	@ .85 "	.....	933.16

Also 109.05 acres N. R. land irrigated from 139.15 sec. ft. water carried 3.2 miles equals 445.28 s. f. m.
And 194.17 acres N. R. land irrigated from 247.76 ft. water carried 23 miles equals 5698.48 s. f. m.
Total 6143.76 S. F. M. @ 0.00½ equals..... 30.72

Total $9756.63

Dos Palos Farm:

Merced Co.	2319.20 acres			
less	1316.38 "			
	1002.82 "	@ 1.25 equals.....		1253.52
Fresno Co.	17464.30 "			
less	6632.02 "			
	10832.28 "	@ .85 "	.....	9207.44

Also 6632.02 acres irrigated from 8462.46 sec. ft. water carried 3.2 miles equals 27079.87 s. f. m. and 1316.38 acres irrigated from 1679.70 sec. ft. water carried 17 miles equals 28554.90 s. f. m.
Total 55634.77 s. f. m. @ 0.00½ equals 278.17

Total $10739.13

Poso Farm:

Merced Co.	1693.80	acres	@ 1.25 equals	2117.25
	640.70	"	" 1.65 "	1057.15
Fresno Co.	15444.70	"		
less	2972.28			
	12472.42	"	" .85 "	10601.56

Also 2972.28 acres N. R. land irrigated from 3792.63 sec. ft. water carried 3.2 miles 12136.42 s. f. m. @ 0.00½ equals 60.68

Total $13836.64

Total M. & L. Bill.

1907–8.

Los Banos Farm	.....	14551.39
Santa Rita "	.....	2257.74
Colony "	.....	9756.63
Dos Palos "	.....	10739.13
Poso "	.....	13836.64
Total	.....	51141.53

1699 *Total Acreage.*

	Irrigated.	M. & L. Water carriage.	Total.
Los Banos Farm	9383.15	2887.75	12270.90
Santa Rita "	1672.40	.....	1672.40
Colony "	7143.68	303.22	7446.90
Dos Palos "	11835.10	7948.40	19783.50
Poso "	14806.92	2972.28	17779.20
Total	44841.25	14111.65	58952.90

1700 The following proportion of the maintenance of the head-works is to be borne by Miller & Lux for 1907-8:

Land Irrigated by Canal Co.

Miller & Lux	44,841.25 —	@ 1.276 equals	57,217.43
Consumers	34,050.70 acres	@ 1.223 equals	41,661.32
Total second feet equals			98,878.75

Land Irrigated by M. & L.

14,111.65 acres @ 1.276 equals 18,006.46.
Proportion of charge to be borne by M. & L. 18,006.46/116,885.21 equals 15.4%.
15.4% of $2,200 equals $338.80.

1701 NOVEMBER 2D, '8.

The San Joaquin & Kings River Canal & Irrigation Company, Incorporated.

GENTLEMEN: I beg to hand you below statement of differences between my reports of Miller & Lux irrigation dated October 9th and October 30th, 1908.

The difference arose from picking out the riparian land from the list of irrigated land. On the report of October 9th the total amount of riparian land irrigated by Miller & Lux was 12,058.8 acres in Fresno County, or 42.2% of the whole, and 12,232.5 in Merced County, or 60.1% of the whole. On the report of October 30th 11,855.8 acres of riparian land were shown to be irrigated in Fresno County, or 41.4% of the whole, and 12,622.5 acres in Merced County, or 62.2% of the whole. This caused a slight reduction of the total acres irrigated in Fresno County and a slightly greater increase in the acres irrigated in Merced County as follows:

42.2% of 16,575.69 equals 6,994.94;
41.4% of same equals 6,862.34, a decrease of 132.60.
60.1% of 11,635.69 equals 6,993.04;
62.2% of same equals 7,237.39, an increase of 244.35.
Total increase 111.75.

1702 The S. J. & K. R. C. & I. Co.

Page 2.

Nov. 2/08.

The results are as follows:

	Acres.		Charge.	
	Report of Oct. 9.	Report of Oct. 30.	Report of Oct. 9.	Report of Oct. 30.
Fresno Co.....	24,534.95	24,402.35	$20,854.71	$20,742.16
Merced Co.:				
1 crop	10,165.96	10,272.46	12,707.45	12,840.57
2 crops	9,988.59	10,126.44	16,481.17	16,708.62
Stanislaus Co...	20.00	20.00	30.00	25.00
	44,709.50	44,821.25	$50,073.23	$50,316.36

This makes a total increase of acreage between the two reports of 111.75 acres, and of money $243.03.

As for the difference in carriage charge, it was assumed in the first report that all of the excess water used on non-riparian lands could be delivered to those lands through the Poso Canal. On tracing it out however to the different parcels of land were said water was used it was discovered that considerable quantity of this water had to be delivered through the Main Canal, so a corresponding carriage charge was made which increased the total bill for carriage of water from $289.52 to $825.17.

Yours truly,

W. C. HAMMATT.

W. C. H./W.

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Compl't's Exhibit No. 27. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

Statement of Number of Acres Irrigated from Canals of S. J. & K. R. C. & I. Co. from 1897 *to* 1908, *Inclusive.*

Year.	Main canal, Fresno.	Main canal, Merced.	Main canal, Stanislaus.	Dos Palos canal, Fresno.	Dos Palos canal, Merced.	Outside canal, Fresno.	Outside canal, Merced.	Total.
1897	9,250	15,003	6,401	3,255	3,241	3,122	.....	40 272
1898	5,694	23,557	10,034	4,440	3,151	2,250	11,285	60,411
1899	10,855	21,528	11,007	4,662	5,463	3,007	8,662	65,184
1900	11,215	20,129	9,750	4,052	4,060	3,132	8,145	60,483
1901	10,033	17,125	7,948	3,473	3,062	5,067	3,583	50,291
1902	10,443	17,502	9,772	3,922	4,939	4,292	4,096	54,966
1903	13,282	20,490	7,051	4,276	4,884	4,742	5,483	60,908
1904	24,361	26,944	11,284	5,431	5,002	8,104	11,723	92,849
1905	26,392	33,662	11,672	5,279	5,838	8,257	12,879	103,980
1906	20,147	32,311	11,858	5,250	6,168	8,305	10,410	94,449
1907	11,453	22,324	11,729	5,598	9,813	3,792	9,933	74,642
1908	16,915	22,472	11,637	3,775	7,650	5,544	12,628	80,621
	170,040	273,047	120,144	53,413	63,271	59,614	98,827	838,356
Average per year..	14,170	22,754	10,012	4,451	5,273	4,968	8,984	70,612

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 28. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

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COMPLAINANT'S EXHIBIT No. 31.

Comparative Table of Earthwork Calculations. The S. J. & K. R. C. & I. Co., Inc.

Main Canal, Fresno Co.

Station.	From cross-sections of canal and banks, Exhibit 29-C.		From report of H. H. Henderson, Exhibit R.	From report of R. H. Goodwin, Exhibit 1.	Remarks.
	Cut.	Banks +10%			
0–0 to 46–00	88,760	67,900	8,869		
46–00 to 188–40	87,950*	87,950*	87,695		*Banks without 10%
188–40 to 275–39	149,630	54,310	54,820		
275–39 to 287–57	20,860	9,360	9,501		
287–57 to 310–00	34,040	21,310	21,886		
310–00 to 329–19	30,000	25,630	26,298		
329–19 to 352–00	32,110	21,860	14,526		
252–00 to 410–00	65,180	23,270	21,982		
410–00 to 451–63	41,390	17,180	18,884		
451–63 to 501–05	31,520	25,140	27,126		
501–05 to 529–71	15,360	17,610	17,882		
529–71 to 578–48	36,870	26,490	29,730		
578–48 to 610–00	35,530	24,440	23,463		
610–00 to 630–00	21,190	18,610	16,901		
630–00 to 659–71	32,600	24,530	20,192		
659–71 to 700–00	43,470	24,460	27,535		
700–30 to 730–00	19,610	17,520	11,097		
730–00 to 751–82	15,840	16,130	14,592		
751–82 to 810–00	50,850	41,200	40,831		
810–00 to 889–95	76,270	54,950	49,308		

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889–95 to 960–05	58,470	59,130	54,478		
960–05 to 1047–27	64,520	61,580	54,006		
1047–27 to 1119–47	51,530	49,350	45,332		
1119–47 to 1126–00	5,080	3,560	4,097		
Total (Main & Parallel Canal)	1,108,630	792,570	701,031	1,079,940	
		China Slough			
0– 0 to 78–000	.....	85,140*	8,268	17,000	*Banks without 10%
		Spillway No. 1.			
0– 0 to 43–81	15,270	12,870	15,333	18,835	
		Spillway No. 2.			
0– 0 to 58–65	No cross-section shown		18,890	18,900	

Station.	From cross-sections of canal and banks, Exhibit 29-C. Cut.	Banks —10%	From report of H. H. Henderson, Exhibit —.	From report of R. H. Goodwin, Exhibit 1.	Remarks.
0– 0 to 57–32	18,080	8,870	18,056	24,724	
Outside Canal, Fresno County.					
0– 0 to 160–00	129,170	59,150	116,090		
160– 0 to 340–00	116,000	82,150	118,674		
340– 0 to 460–00	71,550	69,550	74,520		
460– 0 to 700–00	143,300	161,050	152,088		
700– 0 to 853–18	87,300	64,956	97,300		
853–18 to 1002–00	67,900	63,930	69,261		
	614,820	500,780	627,925	532,400	
Side Ditch, Outside Canal, Fresno Co.					
0– 0 to 160– 0	14,157	10,944	12,246		
160– 0 to 340– 0	9,245	8,540	8,000		
340– 0 to 460– 0	10,180	10,165	11,555		
460– 0 to 700– 0	19,130	16,390	22,360		
700– 0 to 853–18	9,340	8,700	10,022		
853–18 to 1002– 0	7,018	14,372	9,287		
	69,070	69,111	73,470	80,000	

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Dos Palos Canal, Fresno Co.

0–0 to 102–50	31,500	40,900	37,207	
102–50 to 257–00	45,180	63,780	54,832	
257–00 to 469–50	43,200	101,000	88,804	
	119,880	205,680	180,843	109,617

Branch No. 1, Dos Palos Canal, Fresno Co.

No cross-sections				38,787

Branch No. 2, Dos Palos Canal, Fresno Co.

No cross-sections				14,124

Side Ditch, Dos Palos Canal, Fresno Co.

19,400	11,700	.....		8,450

1706

Main Canal, Merced Co.

Station.	From cross-sections of canal and banks, Exhibit 29-C. Cut.	Banks—10%	From report of H. H. Henderson, Exhibit —.	From report of R. H. Goodwin, Exhibit 1.
1126–00 to 1343–00	180,800	153,300	145,288	
1343–00 to 1460–00	85,200	76,600	70,082	
1460–00 to 1550–00	52,550	72,650	65,054	
1550–00 to 1660–09	63,100	82,900	70,206	
1660–00 to 1759–35	55,850	80,100	76,411	
1759–35 to 1890–51	94,700	91,900	84,088	
1890–51 to 1986–58	72,570	91,030	77,871	
1986–58 to 1995–29	6,840	8,730	7,934	
Los Banos Creek....	611,610	657,210	596,944	864,006
2007–51 to 2090–00	71,050	61,710	68,588	
2090–00 to 2260–00	116,500	116,100	121,412	
2260–00 to 2400–00	80,000	107,900	70,604	
2400–00 to 2590–00	173,000	172,600	172,639	
2590–00 to 2768–82	115,500	111,600	111,265	
2768–82 to 3009–12	139,300	124,400	140,524	
3009–12 to 3225–00	102,950	96,300	94,348	
	798,300	790,610	779,380	840,694

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		Dram Ditch.		
1460–00 to 1550–00	9,540	3,660	12,890	
1550–00 to 1660–00	12,230	5,160	12,222	
1660–00 to 1759–35	12,290	5,710	11,896	
1759–35 to 1890–51	15,530	12,740	21,655	
1890–51 to 1995–29	5,310	7,010	6,910	
	54,900	34,280	65,573	46,320
		Out-side Canal.		
1002–00 to 1140–00	63,970	73,150	59,037	
1140–00 to 1349–70	108,300	112,500	102,753	
1349–70 to 1518–92	87,800	93,000	93,159	
1518–92 to 1760–00	129,000	152,360	111,451	
Los Banos Creek....	389,070	431,010	366,400	445,225
1760–00 to 1900–00	115,000	141,900	123,060	
1900–00 to 2020–00	74,160	70,500	79,332	
2020–00 to 2140–00	53,200	73,570	52,812	
2140–00 to 2230–00	35,000	50,000	35,875	
2230–00 to 2290–00	25,850	28,850	26,568	
2290–00 to 2370–00	21,650	34,770	30,768	
2370–00 to 2567–95	80,650	100,150	80,584	
	405,510	500,440	428,999	456,655

Side Ditch.

Station.	From cross-sections of canal and banks, Exhibit 29-C. Cut.	Banks—10%	From report of H. H. Henderson Exhibit —.	From report of R. H Goodwin Exhibit 1.
1002–00 to 1140–00	6,310	12,760	7,240	
1140–00 to 1349–70	11,030	22,470	9,837	
1349–70 to 1518–92	12,060	15,780	12,126	
1518–92 to 1579–90	3,720	6,330	3,726	
1579–90 to 1759–33	9,950	19,000	10,977	
	43,070	76,340	43,906	62,800
Spillway No. 4.				
0 to 17–79	5,930	4,060	5,924	6,118
Spillway No. 5.				
0 to 67–15	15,420	17,500	15,447	23,200
Dos Palos Canal.				
469–50 to 757–00	93,700	113,500	119,772	95,020
Dos Palos Branch No. 1.				
No cross-sections				61,525
Dos Palos Branch No. 2.				
No cross-sections				63,655
Dos Palos Branch No. 3.				
No cross-sections				58,571
Dos Palos Branch No. 4.				
No cross-sections				19,344
Stanislaus Co.				
Main Canal.				
3225–00 to 3468–00	91,180	99,980	91,151	
3468–00 to 3530–00 3530–00 to 3535–00 3535–00 to 3547–00 3547–00 to 3746–31	120,780	139,010	102,369	
	211,960	238,990	193,520	370,858
Orestimba Branch.				
No cross-sections				11,000

1708

Summary.

Fresno County.

Name of canal.	Part.	From cross-sections of canal and banks, Exhibit 29-C. Cut.	From cross-sections of canal and banks, Exhibit 29-C. Banks—10%	From report of H. H. Henderson Exhibit R.	From report of R. H. Goodwin Exhibit 1.
China Slough		.....	85,140	8,268	17,000
Main		1,108,630	792,570	701,031	1,079,940
Outside		614,820	500,780	627,925	532,400
	Spillway No. 1	15,270	12,870	15,333	18,835
	" No. 2	.....	.....	18,890	18,900
	" No. 3	18,080	8,870	18,056	24,724
	Side Ditch	69,070	69,110	73,470	80,000
D. P. Canal		119,880	205,680	180,843	109,617
	Branch No. 1	.....	.....	.....	38,787
	2	.....	.....	.....	14,124
	Side Ditch	19,400	11,700	.....	8,450

Merced County.

Main Canal		611,610	657,210	596,944	864,006
	Extension	798,300	790,610	779,380	840,694
	Drain Ditch	54,900	34,280	65,573	46,320
Outside Canal		389,070	431,010	366,400	445,225
	Extension	405,510	500,440	428,999	456,655
	Side Ditch	43,070	76,340	43,906	62,800
	Spillway No. 4	5,930	4,060	5,924	6,118
	" No. 5	15,420	17,500	15,447	23,200

Name of canal.	Part.	From cross-sections of canal and banks, Exhibit 29-C. Cut.	Banks—10%	From report of H. H. Henderson, Exhibit R.	From report of R. H. Goodwin, Exhibit 1.
Dos Palos Canal		93,700	113,500	119,772	95,020
	Branch No. 1	.....	.....	.....	61,525
	2	.....	.....	.....	63,655
	3	.....	.....	.....	58,571
	4	.....	.....	.....	19,344
	Stanislaus County.				
Main Canal		211,960	238,990	193,520	370,858
Orestimba Branch		.....	.....	.....	11,000
Total		4,679,760	4,550,560	4,259,681	5,367,768

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Endorsed: No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl'ts' Exhibit No. 31. E. H. H. Filed, May 14, 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1709 Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl'ts' Exhibit No. 32. E. H. H. Master.

Branch No. 5, Colony Canal.

12900 ft. long.
30 to 50′ width at top of leveee.
4 to 5 ft. deep.
Average cross-section excavation 40.7 sq. ft.
Total excavation 19461 cu. yds.

	Cost per Cu. Yd.	
Excavator work:—		
Labor	.0054	
Board	.0022	
Horse hire	.0270	
" feed	.0006	
Rent of excavator	.0115	
Repairs of "	.0009	
		.0476
Scraper work:—		
Labor	.01680	
Board	.00783	
Horse hire	.03743	
" feed	.00194	
" shoeing	.00009	
Scraper rent	.00139	
Plow "	.00028	
Wagon "	.00013	
Scraper repairs	.00010	
		.06599
Total		.1136

Total cost Excavator work	$925.30
Scraper work	1284.17
	$2209.47

Built in January and February, 1908.

Endorsed: Filed May 14, 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

Actual Cost of Structures Built from July, 1907, to June, 1908; Lumber Purchased from April, 1907, to November, 1907.

Costs per M F., B. M.

	Main headgate, 0+30.	Parallel canal headgate, 579+88.	Firebaugh weir, 334+53.	Crow Creek weir.	Average.	Outside canal bridge, 0+42.	Helm Camp bridge, 252+73.	Average.
When built.....	Nov., 1907.	Feb'y, 1908.	Oct., 1907.	Aug., 1907.		Dec., 1907.	June, 1908.	
Lumber	31.65	32.95	25.64	30.00	29.44	34.73	26.23	29.05
Hauling	2.28	2.04	2.15	.96	1.97	2.24	2.02	2.09
H'd'w're	3.58	3.58	3.00	4.58	3.51			
Nails	0.64	0.63	1.58	0.74	0.99	0.93	0.75	0.81
Carpenter labor ...	25.00	7.77	29.56	22.75	23.06	4.96	8.56	7.36
			Total Costs.					
Carpentry	1,563.67	726.13	1,845.60	829.54	.....	317.90	558.56	
Piles	209.55							
Excavation	590.60	112.04	482.75	180.49	.....	3.45	35.00	
Pumping	167.47	12.50	74.60					
Engineering	54.90	20.00	41.60	29.55				
Total cost...	2,585.29	270.67	2,444.55	1,039.58	.....	321.35	593.56	
Remarks:		Built on old substructure.	Very wet foundation.					

Endorsed: No. 14554. In U. S. Circuit Court. Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Compl't's Exhibit No. 33. E. H. H. Master. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

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1711 DEF'TS' EXHIBIT A.

STATE OF CALIFORNIA,
County of Stanislaus, ss:

J. H. Maddrill of said County of Stanislaus, being duly sworn, says: That he is a citizen of the United States, of the age of eighteen years and upwards, not interested in the matter of the notice and petition, and is competent to testify in the matter of said notice and petition. That he is principal clerk of the printers and publishers, and was such at the times herein stated, of the Daily Evening News, a newspaper printed and published in said county of Stanislaus, and as such, has charge of all advertisements in said newspaper. That the notice and petition of which the annexed is a printed copy, was published in said newspaper at least 36 days, and as often during the period of said 36 days as said paper was regularly issued, towit: Daily, Sundays excepted, from the 10th day of March, 1896, to and until the 14th day of April, 1896, both inclusive.

J. H. MADDRILL.

Subscribed and sworn to before me this 15th day of April, 1896.

[SEAL.] J. E. WARD,
Notary Public, Stanislaus Co., Calif.

Petition.

To the Board of Supervisors of the county of Stanislaus, state of California:

We, the undersigned, inhabitants and tax payers of the county of Stanislaus, State of California, do hereby petition your honorable Board to regulate and control the rates and compensation to be collected by the San Joaquin and Kings River Canal and Irrigation Company for the sale, rental or distribution of the appropriated waters of said company to the inhabitants of said county of Stanislaus.

1712

C. C. Eastin.	E. W. Crow.
G. H. Crow.	W. T. Morehead.
A. J. Trefts.	C. E. Trefts.
H. V. Armstead.	Jacob Trefts.
E. H. Robison.	Simon Newman.
A. G. Stonesifer.	A. Cahen.
C. R. Starrett.	E. S. Wangenheim.
W. E. Isom.	B. H. Crow.
T. A. Crow.	B. F. Crow.
J. T. Crow.	A. A. Mayes.
Frank Winter.	Ben Peterson.
B. Moran.	C. H. Fink.
G. A. Fink.	W. D. Bell.
W. F. Fink.	John Gum.
M. L. Morris.	C. A. Stonesifer.

Endorsed: In the Board of Supervisors of the county of Stanislaus, State of California: Petition of C. C. Eastin et al. to regulate the water rates of the San Joaquin and Kings River Canal and Irrigation Co. Filed March 10, 1896. A. S. Dingley, Clerk, by L. H. Hammett, Deputy Clerk.

To the San Joaquin and Kings River Canal and Irrigation Company and to all persons interested in the matters of the petition hereto attached and in this notice:

Notice is hereby given that Wednesday the 15th day of April, 1896, at the hour of 10:30 o'clock A. M. of that day, being a day of the next regular term of the session of the said Board of Supervisors of the county of Stanislaus, at the Supervisors' Room at the Courthouse in the city of Modesto, county of Stanislaus, State California, has been fixed as the time and place for the he[illegible] of the said petition hereto attached.

1713 Dated this 10th day of March, 1896.

[SEAL.]

A. S. DINGLEY, *Clerk*.
By L. H. HAMMETT,
Deputy Clerk.

Endorsed: Filed April 15th, 1896. A. S. Dingley, Clerk, by L. H. Hammett, Deputy Clerk.

To the San Joaquin and Kings River Canal and Irrigation Company and to all persons interested in the matters of the petition hereto attached and in this notice:

Notice is hereby given that Wednesday the 15th day of April, 1896, at the hour of 10:30 o'clock A. M., of that day, being a day of the next regular term of the session of the said Board of Supervisors, of the County of Stanislaus, at the Supervisors' Room, at the Court House, in the City of Modesto, County of Stanislaus, State of California, has been fixed as the time and place for the hearing of the said petition hereto attached.

Dated this 10th day of March, 1896.

[SEAL.]

A. S. DINGLEY, *Clerk*.
By L. H. HAMMETT,
Deputy Clerk.

To the Board of Supervisors of the County of Stanislaus, State of California:

We the undersigned inhabitants and tax payers of the County of Stanislaus, State of California, do hereby petition your Honorable Board to regulate and control the rates and compensation to be collected by the San Joaquin and Kings River Canal and Irrigation Company for the sale, rental, or distribution of the appropriated waters of said company to the inhabitants of said County

1714 of Stanislaus.

C. C. Eastin.
E. W. Crow.
G. H. Crow.
W. T. Morehead.
A. J. Trefts.
C. E. Trefts.
H. V. Armstead.
Jacob Trefts.
E. H. Robison.
Simon Newman.
J. T. Crow.
A. A. Mayes.
Frank Winter.
Ben Peterson.
B. Moran.
C. H. Fink.
G. A. Fink.
W. D. Bell.
W. F. Fink.
John Gum.
M. L. Morris.
C. A. Stonesifer.
A. G. Stonesifer.
A. Cahen.
C. R. Starrett.
E. S. Wangenheim.
W. H. Isom.
B. H. Crow.
T. A. Crow.
B. F. Crow.

Endorsed: In the Board of Supervisors of the County of Stanislaus, State of California. Petition of C. C. Eastin et als. to regulate the water rates of The San Joaquin & Kings River Canal and Irrigation Co. Filed March 10, 1896. A. S. Dingley, Clerk, by L. H. Hammett, Deputy Clerk.

1715 *Petition.*

To the Board of Supervisors of the County of Stanislaus, State of California:

We, the undersigned, inhabitants and taxpayers of the County of Stanislaus, State of California, do hereby petition your honorable Board to regulate and control the rates and compensation to be collected by the San Joaquin and Kings River Canal and Irrigation Company for the sale, rental or distribution of the appropriated waters of said company to the inhabitants of said county of Stanislaus.

C. C. Eastin.
A. J. Trefts.
E. H. Robinson.
C. R. Starrett.
T. A. Crow.
Frank Winter.
G. A. Fink.
M. L. Morris.
E. W. Crow.
C. E. Trefts.
Simon Newman.
E. S. Wagenheim.
B. F. Crow.
Ben Peterson.
W. D. Bell.
C. A. Stonesifer.
G. H. Crow.
H. V. Armstead.
A. G. Stonesifer.
W. H. Isom.
J. T. Crow.
B. Moran.
W. F. Fink.
W. T. Morehead.
Jacob Trefts.
A. Cahen.
B. H. Crow.
A. A. Mayes.
C. H. Fink.
John Gum.

Endorsed: In The Board of Supervisors of the County of Stanislaus, State of California: Petition of C. C. Eastin et al. to regulate the water rates of the San Joaquin and Kings River Canal and Irrigation Co. Filed March 10, 1896. A. S. Dingley, Clerk, by L. H. Hammett, Deputy Clerk.

To the San Joaquin and Kings River Canal and Irrigation Company and to all persons interested in the matters of the petition hereto attached and in this notice:

Notice is hereby given that Wednesday, the 15th day of April, 1896, at the hour of 10.30 o'clock A. M. of that day, being a day of the next regular term of the session of the said Board of Supervisors of the County of Stanislaus, at the Supervisors' Room at the Courthouse in the city of Modesto, County of Stanislaus, State of California, has been fixed as the time and place for the hearing of the said petition hereto attached.

Dated this 10th day of March, 1896.

1716 [SEAL.]

A. S. DINGLEY, *Clerk*,
By L. H. HAMMETT,
Deputy Clerk.

STATE OF CALIFORNIA,
County of Stanislaus, ss:

I, A. S. Dingley, County Clerk of the County of Stanislaus, State of California, and ex-officio Clerk of the Superior Court thereof, do hereby certify that I have compared the foregoing copy of Petition, Notice and order and of the endorsements thereupon, with the original records of the same remaining in this office, and that the same are correct transcripts therefrom, and of the whole of said original records.

In witness whereof, I have hereunto set my hand and affixed the seal of said Superior Court, at my office in the County of Stanislaus, this 24th day of April, 1896.

[SEAL.]

A. S. DINGLEY, *Clerk*,
By L. H. HAMMETT,
Deputy Clerk.

OFFICE OF THE SHERIFF,
OF THE CITY AND COUNTY OF SAN FRANCISCO.

I hereby certify that I received the annexed Petition on the 6th day of May A. D. 1896 and personally served the same on the 11th day of May A. D. 1896, on San Joaquin and Kings River Canal & Irrigation Company, the therein named, by delivering to C. Z. Merritt the Secretary of the said Company, personally, in the City and County of San Francisco, State of California, a copy of said Petition.

Dated at San Francisco this 12th day of May A. D. 1896.

RICHARD I. WHELAN, *Sheriff*,
By E. C. HARRINGTON, *Deputy Sheriff*.

Endorsed: In the Board of Supervisors of the County of Stanislaus, State of California. Petition of C. C. Eastin et als. to regulate the water rates of the San Joaquin & Kings River Canal and Irrigation Co. Filed March 10th, 1896. A. S. Dingley, Clerk, by L. H. Hammett, Deputy Clerk.

1717 In the Board of Supervisors of the County of Stanislaus, State of California, Regular April Session, Wednesday, April 15th, 1896.

In the Matter of the Petition of C. C. EASTIN et al., for the Regulation and Control of the Water Rates and Compensation of the San Joaquin and Kings River Canal and Irrigation Company.

Whereas it has been made to appear by a petition of not less than 25 inhabitants who are tax payers of the County of Stanislaus, State of California, which petition is in writing and on file herein that said petitioners have petitioned this Board to regulate and control the rates and compensation to be collected by the San Joaquin and Kings River Canal and Irrigation Company, a corporation for the sale, rental and distribution of water, appropriated by said corporation to a part of the inhabitants of said County of Stanislaus, and it appearing to the Board that said petition and the notice of the hearing thereof has been duly given and published in the manner required by law, and said petitioners appearing, and the said San Joaquin and Kings River Canal and Irrigation Company not appearing.

It is therefore ordered that the further hearing of said petition be continued to and until the 13th day of May 1896, at 10:30 o'clock A. M. of that day. It is further ordered that Supervisor J. P. Barnes be and he is hereby empowered to employ such experts as he may see fit to estimate the value of the Canal and works and property of said company actually used and useful to the appropriation and furnishing of such water to such inhabitants. It is further ordered that the Clerk of this Board cause a copy of said petition and notice together with a copy of this order to be served personally on the President or Secretary of said company, prior to said 13th day of May, 1896. Carried by the following votes: Ayes, Supervisors Davis, Carmichael, Barnes and Toombs. Supervisor Osler voting no on the grounds that it would be too expensive.

1718 Endorsed: In the Board of Supervisors County of Stanislaus. In the Matter of the Petition of E. C. Easton et al. to regulate the water rates, etc. Certified Copy Petition, Notice and Order. Received May 8, 1896, 3:17 P. M. San Joaquin and Kings River Canal Comp. O. K. R. A. D. 508 Cal. R. 76. Served Secretary Merritt. Filed on Return May 16, 1896. A. S. Dingley, Clerk, by L. H. Hammett, Deputy.

1719

SHERIFF'S OFFICE,
CITY AND COUNTY OF SAN FRANCISCO, CAL.,
May 14, 1896.

A. S. Dingley, Esq.

DEAR SIR: Enclosed please find summons in Re matter of C. E. Easton, service having been made.

Respectfully,

RICHARD I. WHELAN, *Sheriff*,
By JNO. G. FITZGERALD, *Dt.*

1720 To the Honorable the Board of Supervisors of the County of Stanislaus, State of California.

GENTLEMEN: As per request of Supervisor Mr. J. P. Barnes, we have made a survey of the canal belonging to the "San Joaquin and Kings River Canal and Irrigation Company" and herewith submit the following report and estimated cost of the canals, ditches, waterchutes and all other property actually used and useful to the appropriation and furnishing of water from such canal.

The canal is located on the west side of the San Joaquin Valley, being, lying and situate in the counties of Fresno, Merced and Stanislaus, State of California.

The legth of the main canal is 71.17 miles, 26.77 miles of which being double, making a total distance of 97.94 miles of constructed canal.

The width of the canal varies from 25 feet to 40 feet, but the majority is of 30 feet base.

37.97 miles of the canal *was* constructed in the year 1872, 28.87 miles in 1878, and 4.10 miles in 1884.

The banks of the canal are in very fair order, but the bed is badly silted in many places.

The upper 30 miles of the canal passes through a thinly settled and unimproved country, the balance of 41.17 miles through a productive and fast growing district.

The following is an estimated cost of construction of the above mentioned canal, taking in consideration the different widths, cross sections, grades, materials and appurtenances based upon the prices of materials, supplies and labor of the present date.

1721 Earth excavation 2,966,125 yards @ 6½¢....	$192,798.10
Lumber in Head, Regulating, Distributing waste and Inlet gates, boxes, bridges, etc.:	
1,689,410 feet B. M. in place.....	55,536.50
Six station buildings	4,000.00
Telephone line 70 miles	4,900.00
Engineering, superintendence, officers of company, stationery and printing, law expenses and other incidentals	25,723.40
Right of way, first 30 miles 900 acres @ $3.....	2,700.00
" " " Balance distance 1068 " " 25.....	26,700.00
Total Cost	$312,358.09

Cash Value.

We place the present cash value of the above mentioned canal and works at	$251,000.00
We give the following very liberal items of annual expenses for maintenance of the above mentioned canal:	
Salary, secretary	1,800.00
" Superintendent	1,800.00
" 6 section men @ $45.....	3,240.00

Office Rent	300.00
Stationary & Printing	150.00
Rent of 7 telephone boxes	140.00
Batteries	25.00
Feeding 10 horses	1,080.00
Annual pro rata on cost of 10 horses	65.00
" " " " " " buggy & carts	80.00
" cleaning canal of silt & weeds	1,500.00
" Repairs on Bridges and Gates	320.00
1722	
Annual Repairs on Brush dam	500.00
" Taxes approx.	2,100.00
" Travelling & incidental expenses	150.00
Total expense	13,250.00

Modesto, Cal., June 9th, 1896.
Respectfully submitted.

R. H. GOODWIN,
Consulting Engineer.

E. D. GROIR,
D'p'ty Co. Surveyor.

Endorsed: Report of Engineers as to value of San J. and K. R. Canal, etc. Filed June 10th, 1896. A. S. Dingley, Clerk, by L. H Hammett, Deputy. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1723 DEF'T'S EXHIBIT "B."

"Lumber Estimate" in the Head, Regulating, Distributing Waste, and Inlet Gates, Boxes, and Bridges on the San Joaquin and Kings River and Irrigation Comp's Canal, 1896.

1724 Prices of Lumber.

Redwood planking per M. ft	$13.
do. timber " " "	14.
Pine " " "	11.
Piles per running ft.	13¢
Carpenter Work on—	
Bridges per M ft.	$5.
Small Gates " "	5.
Regulating Gate " "	7.

Freight and hauling.	Lumber per M feet.	Iron per 100 lbs.
To Dam and Headgates, Mendota Station:		
Freight	7.30	0.44
Hauling	.70	.02
Total	8.00	0.46
To 378–63, Firebaugh Sta.:		
Freight	7.15	0.42
Hauling	.70	.02
Total	7.85	0.44
To 811–60, Firebaugh Station:		
Freight	7.15	0.42
Hauling	1.75	.06
Total	$8.90	0.48
To 111–80, Dos Palos Station:		
Freight	6.85	0.38
Hauling	1.75	.06
Total	$8.60	0.44
To 1427–60, Dos Palos Station:		
Freight	6.85	0.38
Hauling	1.75	.06
Total	8.60	0.44
To 1895, Los Banos Station:		
Freight	6.50	0.33
Hauling	1.75	.06
Total	8.25	0.39

Over.

1725

To 2211–80, Los Banos Station:		
Freight	6.50	0.33
Hauling	1.15	.04
Total	$7.65	0.37
To 2377–70, Volta Station:		
Freight	6.35	0.32
Hauling	1.15	.04
Total	$7.50	0.36

Freight and hauling.	Lumber per M feet.	Iron per 100 lbs.
To 2456–90, Volta Station:		
Freight	6.35	0.32
Hauling	.85	.03
Total	$7.20	0.35
To 2626–35, Ingomar Station:		
Freight	6.05	0.30
Hauling	.85	.03
Total	$6.90	0.33
To 2943–15, Ingomar Station:		
Freight	6.05	0.30
Hauling	.85	.04
Total	$6.90	0.34
To 3293–10, Newman Sta.:		
Freight	5.45	0.25
Hauling	1.15	.04
Total	$6.60	0.29
To 3425–10, Newman Station:		
Freight	5.45	0.25
Hauling	.85	.04
Total	$6.30	0.29
To 3637–15, Crows Landing:		
Freight	5.15	0.22
Hauling	.85	.03
Total	$6.00	0.25
To 3755–45, Crows Landing:		
Freight	5.15	0.22
Hauling	.85	.03
Total	$6.00	0.25

1726 *Lumber in Gates & Bridges.*

Dam:

	Iron.	Lumber M ft.		
Brush 12,500 yds. @ 50¢...	....	.....	6250.00	
Piles 3600 feet @ 13¢.....	....	24.00	468.00	
Driving piles 2400 @ 10¢..	...	....	240.00	
Freight & Hauling @ $8. .	....	.....	192.00	
Earth levee 200 yds. 8¢....	....	.....	16.00	
" " 5000 " 8.....	....	.....	400.00	
" Dam 3000 " 8.....	....	.....	240.00	
				$7806.00

Headgates:

Redwood planking $13....	....	36.52	474.75	
" timber 14.....	....	7.14	100.00	
Pine 11.....	....	16.44	180.85	
Carpenter Work per M $7½.	....	60.10	450.75	
Piles 2370 ft. 13¢.....	....	15.80	318.10	
Driving piles 1620 10¢.....	....	.....	162.00	
Freight & Hauling $8.....	....	75.90	607.20	
Iron @ 3¢.....	1040	.....	31.20	
Blocks & Rope.....	64	.....	7.50	
Freight & Hauling 42¢.....	1104	.....	5.00	
				$2337.35
(Add Driving 6920 sheet piling)				(692.)
				(3029.35)

Falling dam:

Redwood planking $13....	....	53.14	690.80	
Do. timber 14....	....	3.29	46.05	
Pine 11....	....	8.52	93.70	
Carpenter Work 7½.....	....	64.95	487.10	
Piles 3450 ft. 13¢.....	....	23.00	448.50	
Freight & Hauling $8.....	....	87.95	703.60	
Driving piles 2640 @ 10¢..	....	.....	264.00	
Iron 3¢	1840	.....	55.20	
Freight & Hauling 46¢.....	....	.....	8.45	
Earthwork 500 yds. 8¢.....	....	.....	40.00	
				$2837.40
(Add 11240 ft. sht. pil. @ --)				(1124.00)
				(3961.40)

259–90. Inlet gate, double:

Redwood plank $13....	....	4.24	55.10	
Do. timber 14....	....	1.73	24.20	
Freight & Hauling 7.85....	....	5.97	46.85	
Carpenter Work 5.....	....	.....	29.85	
Carried forward.....	2880	193.82	$156.00	12980.75

1727 Brot. for'd.....	....	5.97	156.00	12980.75
	Iron.	M ft.		
Carpenter work $5.....	....	.....	29.85	
Iron 3¢.....	76	.....	2.25	
Freight & Hauling 44¢.....	....	.....	.35	
Earthwork 90 yds. 12¢.....	....	.....	10.80	
303–40. Inlet gate, single:				169.40
Redwood planking $13....	....	2.76	35.90	
" timber 14....	....	1.30	18.20	
Freight & hauling 7.85.....	....	4.06	31.85	
Carpenter Work 5.....	....	.....	20.30	
Iron 3¢.....	50	.....	1.50	
Freight & Hauling 44¢.....	....	.....	.25	
Earthwork 50 12¢.....	....	.....	6.00	
308–76. Bridge, 16' x 54':				114.00
Redwood timber $14.....	....	2.02	28.25	
Pine 11.....	....	4.54	49.95	
Freight & Hauling 7.85.....	....	6.56	51.59	
Carpenter Work 5	....	.....	32.80	
Iron 3¢.....	108	.....	3.25	
Freight & Hauling 44¢.....	....	.....	.45	
Earthwork 80 yds. 8¢.....	....	.....	6.40	
332–94. Distributing gate, 12' x 48':				172.60
Redwood planking $13....	....	6.24	81.10	
Do. timber 14....	....	5.55	77.70	
Pine 11	....	6.12	67.30	
Freight & Hauling 7.85....	....	17.91	140.60	
Carpenter Work 7.....	....	.....	125.40	
Iron 3¢.....	344	.....	10.30	
Blocks & Rope.....	36	.....	4.10	
Freight & Hauling 44.....	380	.....	1.65	
Earthwork 80 yds. 12¢.....	....	.....	9.60	
Forward	578	34.50	.....	$13954.50
1728 Bro't for'd.....				$13954.50
3374–14. Distributing gate, 10' x 20':				
Redwood planking $13....	....	3.22	41.85	
Do. timber 14....	....	3.39	47.45	
Pine 11.....	....	1.87	20.60	
Freight & Hauling 7.85....	....	8.48	66.55	
Carpenter Work 7.....	....	.....	59.35	
Iron 3¢.....	138	.....	4.15	
Blocks & Rope.....	36	.....	4.10	
Freight & Hauling 44¢.....	174	.....	.75	
Earthwork 100 yds. 12¢....	....	.....	12.00	
				256.80

338–47. Regulating gate, 10′ x 50′:

Redwood plank $13....	....	5.09	66.15	
" timber 14....	....	3.83	53.60	
Pine 11.....	....	5.21	57.30	
Freight & Hauling 7.85....	....	14.13	110.90	
Carpenter Work 7.....	....	.....	98.90	
Iron 3¢.....	290	.....	8.70	
Blocks & Rope.....	36	.....	4.10	
Freight & Hauling 44.....	326	.....	1.40	
Earthwork 90 yds. 12.....	....	.....	10.80	
				411.85

378–63. Bridge, 16′ x 60′:

Redwood timber $14.....	....	1.58	22.10	
Pine 11.....	....	5.37	59.10	
Freight & Hauling 7.85....	....	6.95	54.55	
Carpenter Work 5.....	....	.....	34.75	
Iron 3¢.....	68	.....	2.05	
Freight & Hauling 44.....	....	.....	.30	
Earthwork 80 yds. 8¢.....	....	.....	6.40	
				179.25

389–25. Distributing gate, double:

Redwood plank $13....	....	3.87	50.30	
do. timber 14....	....	1.27	17.75	
Freight & hauling 8.90....	....	5.14	45.75	
Carpenter Work 5.....	....	.....	25.70	
Forward	486	34.70	$139.50	14802.40
1729 Bro't for'd.....			139.50	14802.40
Iron 3¢	90	.....	2.70	
Freight & Hauling 48¢.....	....	.....	.45	
Earth 90 yds. 12¢.....	....	.....	10.80	
				153.45

424–36. Distributing gate, double:

Same as above.....	90	5.14	.....	153.45

495–65. Waste gate, 30 x 48:

Redwood planking $13....	....	15.97	207.60	
do. timber 14....	....	3.91	54.75	
Pine 11	....	10.86	119.45	
Freight & Hauling 8.90....	....	30.74	273.60	
Carpenter Work 7.....	....	.....	215.20	
Iron 3¢	462	.....	13.85	
Blocks & Rope.....	36	.....	4.10	
Freight & Hauling 48¢....	498	.....	2.40	
Earthwork 50 @ 12.....	....	.....	6.00	
				896.95

495–65. Regulating gate. 12′ x 48′:

Redwood plank 13	....	....	3.44	44.70	
do. timber 14	....	....	4.31	60.35	
Pine 11	....	....	5.83	64.15	
Freight & Haul. 8.90	....	....	13.58	120.85	
Carpenter Work 7	....	....	.....	95.05	
Iron 3¢	230	.....		6.90	
Blocks & Rope	36	.....		4.10	
Freight & Haul. 48¢	266	.....		1.25	
Earth 80 yds. 12¢	....	.....		9.60	
					406.95

541–80. Inlet gate. double:

Redwood plk. 13	....	....	4.24	55.10	
" timber 14	....	....	1.73	24.20	
Freight & Hauling 8.90	....	....	5.97	53.15	
Carpenter Work 5	....	....	.....	29.85	
Iron 3¢	76	.....		2.30	
Freight & Haul. 48¢	....	.....		.35	
Earth 90 yds. 12¢	....	.....		10.80	175.75
Forward	448	50.29	.....		$16588.95
1730 Bro't for'd					$16588.95

578–64. Bridge. 16 x 62:

Redwood planking $13	....	....	0.58	7.55	
do. timber 14	....	....	2.24	31.35	
Pine 11	....	....	6.61	72.70	
Freight & hauling 8.90	....	....	9.43	83.90	
Carpenter Work 5	....	....	.....	47.15	
Iron 3¢	240	.....		7.20	
Freight & hauling 48¢	....	.....		1.15	
Earth 80 8¢	....	.....		6.40	
					257.40

586. Regulating gate. 7′ x 40′. W. C.:

Redwood plank $13	....	....	5.56	72.30	
Do. timber 14	....	....	4.81	67.35	
Pine 11	....	....	4.02	44.20	
Freight & Haul. 8.90	....	....	14.39	128.05	
Carpenter Work $7	....	....	.....	100.75	
Iron 3¢	273	.....		8.20	
Blocks & Rope	36	.....		4.10	
Freight & Haul. 48¢	309	.....		1.50	
Earth 120 yds. 12¢	....	.....		14.40	
					440.85

586. Regulating gate, 7 x 50, E. C.:

Redwood plank 13....	....	4.72	61.35	
" timber 14....	....	4.78	66.90	
Pine 11	....	5.96	65.55	
Freight & Haul. 8.90.....	....	15.46	137.60	
Carpenter Work 7.....	....	.....	108.20	
Iron 3¢	325	.....	9.75	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul.....	361	.....	1.75	
Earth 150 yds. 12.....	....	.....	18.00	
				473.20

599–40. Distributing gate, single:

Redwood plank 13....	....	1.87	24.30	
do. timber 14....	....	1.04	14.55	
Freight & Haul. $8.90.....	....	2.91	25.90	
	838	42.19	64.75	$17760.40
1731 Bro't For'd			64.75	17760.40
Carpenter Work 7.....	....	.....	20.35	
Iron 3¢	60	.....	1.80	
Freight & Haul. 48.....	....	.....	.30	
Earth 50 yds. 12.....	....	.....	6.00	
				93.20

599–80. Distributing gate, single:

Same as above.....	60	2.91	.....	93.20

643. Distributing gate, single:

Same as above.....	60	2.91	.....	93.20

643–40. Distributing gate, double:

Redwood plank 13....	....	3.02	39.25	
" timber 14....	....	1.43	20.00	
Freight & Hauling 8.90....	....	4.45	39.60	
Carpenter Work 5.....	....	.....	22.25	
Iron 3	90	.....	2.70	
Freight & Hauling 48.....	....	.....	.45	
Earth 80 yds. 12¢.....	....	.....	10.80	
				135.05

672–25 Distributing gate, single:

Same as 599–80.....	60	2.91	.....	93.20

685–70. Bridge, 14 x 30:

Redwood plank	13....	....	0.84	10.90	
" timber	14....	....	2.30	32.20	
Pine 11		....	1.98	21.80	
Freight & Hauling 8.90....		....	5.12	45.55	
Carpenter Work 5.....		....	.....	25.60	
Iron 3¢		65	.....	1.95	
Freight & Hauling 48.....		....	.....	.30	
Earthwork 80 yds. 8¢.....		....	.....	6.40	
					144.70

686–60. Distributing gates, 20 x 30:

Redwood plank	13....	....	4.14	53.80	
" timber	14....	....	3.78	52.90	
Freight & Haul. 8.90.....		....	7.92	70.50	
Carpenter Work 7.....		....	.....	55.45	
		395	26.22	$232.65	$18412.95
1732 Bro't for'd				$232.65	18412.95
Iron 3¢		145	.....	4.35	
Blocks & Rope.....		36	.....	4.10	
Freight & Haul. 48¢.....		181	.....	.85	
Earth 150 12¢.....		....	.....	18.00	
					259.95

699–95. Distributing gate, single:

Same as 599–40.....	60	2.91	.....	93.20

699–95. Distributing gates, double:

Same as 643–40.....	90	4.45	.....	135.05

727–80. Distributing gate, single:

Same as 599–40.....	60	2.91	.....	93.20

740–50. Distributing gate, single:

Same as 599–40.....	60	2.91	.....	93.20

754–60. Distributing gate, single:

Same as 599–40.....	60	2.91	.....	93.20

755–30. Distributing gate, single:

Same as 599–40.....	60	2.91	.....	93.20

762–30. Bridge, 14 x 62:

Redwood plank	13....	....	0.24	3.10	
do. timber	14....	....	1.80	25.20	

Pine 11	....	4.59	50.50	
Freight & Haul. 8.90	....	6.63	59.00	
Carpenter Work 5	....	.....	33.15	
Iron 3	82	.....	2.45	
Freight & Haul. 48	....	.....	.40	
Earth 80 8¢	....	.....	6.40	
				180.20

767–40. Inlet gate, single:

Redwood plank 13	....	2.76	35.90	
" timber	....	1.30	18.20	
Freight & Hauling 8.90	....	4.06	36.15	
Carpenter Work 5	....	.....	20.30	
Iron 3	50	.....	1.50	
Freight & Haul. 48	....	.....	.25	
Earthwork 50 12¢	....	.....	6.00	118.30
	667	29.69	.....	19572.45
1733 Bro't for'd				19572.45

762–30. Regulating gate, 15 x 40:

Redwood plank 13	....	5.18	67.35	
do. timber 14	....	5.14	71.95	
Pine 11	....	5.82	64.00	
Freight & Haul. 8.90	....	16.14	143.65	
Carpenter Work 7	....	.....	113.00	
Iron 3¢	280	.....	8.40	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 48	316	.....	1.50	
Earthwork 80 yds. 12¢	....	.....	9.60	
				483.55

769–70. Distributing gate, single:

Same as 599–40	60	2.91	.....	93.20
783–50:				
do. do.	60	2.91	.....	93.20
797–10:				
do. do.	60	2.91	.....	93.20
810–20:				
do. do.	60	2.91	.....	93.20
810–20:				
do. do.	60	2.91	.....	93.20

837. Distributing gate, single:

Redwood plank 13	....	1.87	24.30	
do. timber 14	....	1.04	14.55	
Freight & Haul. 8.60	....	2.91	25.	
Carpenter Work 7	....	.....	20.35	
Iron 3¢	60	.....	1.80	
Freight & Haul. 44¢	....	.....	.25	
Earth 50 yds. 12	....	.....	6.00	
				92.25

848–10. Inlet gate, single:

Redwood plank 13	....	2.76	35.90	
do. timber 14	....	1.30	18.20	
Freight & Hauling 8.60	....	4.06	34.90	
Carpenter Work 5	....	.....	20.30	
Iron 3¢	50	.....	1.50	
Freight & haul. 44	....	.....	.25	
Earthwork 50 12¢	....	.....	6.00	117.05
Forward	690	37.66	.....	20731.30
1734 Bro't for'd				20731.30

864–40. Distributing gate, single:

Same as # 837	60	2.91	92.25	

865:

do. do.	60	2.91	92.25	

878–80:

do. do.	60	2.91	92.25	

893–10:

do. do.	60	2.91	92.25	

893–60:

Distributing gates	60	2.91	92.25	
				461.25

894–60. Regulating gate, 14 x 48:

Redwood plank 13	....	5.43	70.60	
do. timber 14	....	4.03	56.40	
Pine 11	....	10.03	110.35	
Freight & Haul. 8.60	....	19.49	167.60	
Carpenter work 7	....	.....	136.45	
Iron 3	314	.....	9.40	
Block & Rope	36	.....	4.10	
Freight & Haul	350	.....	1.55	
Earthwork 70 yds. 12	....	.....	8.40	
				564.85

1227

894–60. Regulating gate, 14 x 40:

Redwood planking 13....	....	5.08	66.05	
do. timber 14....	....	5.97	83.60	
Pine 11	....	5.77	63.45	
Freight & Haul. 8.60.....	....	16.82	144.65	
Carpenter Work 7.....	....	.....	117.75	
Iron 3	294	.....	8.80	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul. 44.....	330	.....	1.45	
Earthwork 100 12¢.....	....	.....	12.00	
				501.85

919–90. Distributing gate, single:

Same as 837.....	60	2.91	92.25	

937–75:

do. do.	60	2.91	92.25	

947–75:

do. do.	60	2.91	92.25	

960–80:

do. do.	60	2.91	92.25	

973–80:

do. do.	60	2.91	92.25	

1002–20:

do. do.	60	2.91	92.25	553.50
Forward	1268	68.32	.....	$22812.75

1735 Bro't for'd $22812.75

1013–60. Inlet gate, single:

Same as 848–10.....	50	4.06	.....	117.05

1030–40. Distributing gate, single:

Same as 837.....	60	2.91	92.25	

1056–40:

do. do.	60	2.91	92.25	

1056–40:

do. do.	60	2.91	92.25	

1083:

do. do.	60	2.91	92.25	
				369.00

1110–80. Bridge, 20 x 54:

Redwood timber 13....	....	3.70	51.80	
Pine 11	....	5.42	59.60	
Freight & haul. 8.60.....	....	9.12	78.45	
Carpenter Work 5.....	....	.....	45.60	
Iron 3¢	100	.....	3.00	
Freight & Haul. 44.....	....	.....	.45	
Earthwork 80 yds. 8.....	....	.....	6.40	
				245.30

1110–80. Bridge, 16 x 72:

Redwood timber 14....	....	2.23	31.20	
Pine 11	....	5.62	61.80	
Freight & Haul. 8.60.....	....	7.85	67.50	
Carpenter work 5.....	....	.....	39.25	
Iron 3¢	130	.....	3.90	
Freight & Haul. 44¢.....	....	.....	.55	
Earthwork 80 @ 8.....	....	.....	6.40	
				210.60

1129–60. Inlet gate, double:

Redwood plank 13....	....	4.24	55.10	
Do. timber 14....	....	1.73	24.20	
Freight & haul 8.60.....	....	5.97	51.35	
Carpenter work 5	....	.....	29.85	
Iron 3	76	.....	2.30	
Freight & haul. 44.....	....	.....	.30	
Earthwork 90–12	....	.....	10.80	173.90
Forward	596	38.64	.....	$23928.60

1736 Bro't ford. $23928.60

1134–40. Distributing gate, double:

Redwood plank 13....	....	3.02	39.25	
" timber 14....	....	1.43	20.00	
Freight & Haul. 8.60.....	....	4.45	38.25	
Carpenter Work 5.....	....	.....	22.25	
Iron 3¢	90	.....	2.70	
Freight & Haul. 44.....	....	.....	.40	
Earth 80 yds. 12.....	....	.....	10.80	
				133.65

1162–75. Distributing gate, single:

Same as 837.....	60	2.91	92.25	

1227:

do. do.	60	2.91	92.25	
				184.50

1228–90. Regulating gate, 8 x 40:

Redwood plank 13....	....	4.56	59.30	
do. timber 14....	....	2.32	32.50	
Pine 11	....	2.28	25.10	
Freight & Haul 8.60.....	....	9.16	78.75	
Carpenter work 7.....	....	.....	64.10	
Iron 3¢	154	.....	4.60	
Blocks & rope.....	36	.....	4.10	
Freight & Haul. 44.....	190	.....	.85	
Earth 80 yds. 12.....	....	.....	9.60	
				278.90

1229–60. Inlet gate, single:

Same as 848–10, double....	50	4.06	.....	117.05

1286–90. Inlet gate, double:

Same as 1129–60.....	76	5.97	173.90	

1346–30:

do. do.	76	5.97	173.90	
				347.80

1347–43. Regulating gate, 12 x 48:

Redwood plank 13....	....	5.49	71.40	
do. timber 14....	....	2.97	41.60	
Pine 11	....	6.59	72.50	
Freight & Haul. 8.60.....	....	15.05	129.45	
Carpenter Work 7.....	....	.....	105.35	
For'd	566	50.48	$420.30	$24990.50
1737 Bro't for'd			$420.30	$24990.50
Iron 3¢	220	.....	6.60	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul. 44¢.....	256	.....	1.10	
Earth 60 yds. 12.....	....	.....	7.20	
				439.30

1347–43. Regulating gate, 24 x 50:

Redwood plank 13....	....	8.25	107.25	
do. timber 14....	....	7.78	108.90	
Pine 11	....	10.16	111.75	
Freight & Hauling 8.60....	....	26.19	225.25	
Carpenter Work 7.....	....	.....	183.35	
Iron 3¢	340	.....	10.20	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul. 44.....	376	.....	1.65	
Earthwork 80 yds. 12.....	....	.....	9.60	
				762.05

1347–43. Bridge, 16 x 72:

Redwood timber 14....	....	2.14	30.00	
Pine 11	....	5.96	65.55	
Freight & Haul. 8.60.....	....	8.10	69.65	
Carpenter work 5.....	....	.....	40.50	
Iron 3¢	100	.....	3.00	
Freight & Haul. 44.....	....	.....	.45	
Earthwork 40 @ 8.....	....	.....	3.20	
				212.35

1347–43. Waste gate, 16 x 36:

Redwood plank 13....	....	8.35	108.55	
do. timber 14....	....	5.79	81.05	
Pine 11	....	6.46	71.05	
Freight & Haul. 8.60.....	....	20.60	177.15	
Carpenter work 7.....	....	.....	144.20	
Iron 3¢	394	.....	11.80	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul. 44.....	430	.....	1.90	
Earthwork 100 12.....	....	.....	12.00	
				611.80
	1054	54.89	.....	$27016.00

1738 Bro't ford. $27016.00

1359. Inlet gate, double:

Same as 1129–60.....	76	5.97	173.90	

1375–70:

do. do.	76	5.97	173.90	

1396–20:

do. do.	76	5.97	173.90	
				521.70

1429–70. Distributing gate, single:

Redwood plank 13....	....	1.87	24.30	
do. timber 14....	....	1.04	14.55	
Freight & Haul. 8.25.....	....	2.91	24.00	
Carpenter work 7	....	.....	20.35	
Iron 3	60	.....	1.80	
Freight & Haul. 39¢.....	....	.....	.20	
Earth 50 yds. 12¢.....	....		6.00	
				91.20

1462–15. Inlet gate, double:

Redwood plank 13....	....	4.24	55.10	
Do. timber 14....	....	1.73	24.20	

Freight & haul. 8.25.....	....	5.97	49.25	
Carpenter work 5.....	....	.....	29.85	
Iron 3¢	....	.....	2.30	
Freight & Haul 39¢.....	....	.....	.30	
Earthwork 90 yds. 12.....	....	.....	10.80	
				171.80

1506–50. Box, 2 x 4 inlet:

Redwood 13.....	....	0.43	5.60	
Freight & Haul. 8.25.....	....	.....	3.55	
Carpenter work 5.....	....	.....	2.15	
Iron 3	7	.....	.20	
Earth –3– 12.....	....	.....	.35	
				11.85

1519–43. Bridge, 14 x 67:

Redwood timber 14.....	....	1.25	17.50	
Pine 11	....	4.02	44.20	
Freight & Haul. 8.25.....	....	5.27	43.45	
Carpenter work 5.....	....	.....	26.35	
Iron 3	....	.....	1.95	
Freight & Haul. 39.....	....	.....	.25	
Earth 80 @ 8.....	....	.....	6.40	
	436	32.49	.....	$27952.65
1739 Bro't for'd				$27952.65

1522–90. Distributing gate, single:

Same as 1429–70.....	60	2.91	.....	91.20

1541–70. Box 2 x 4:

Same as 1506–40.....	7	0.43	.....	11.85

1617–55. Distributing gate, single:

Same as 1429–70.....	60	2.91	.....	91.20

1637–20. Distributing gate, single:

3 x 8½ of 1429–70.....	40	1.94	.....	45.60

1646–10. Inlet gate, single:

Redwood plank 13.....	....	2.76	35.90	
do. timber 14	....	1.30	18.20	
Freight & Haul. 8.25.....	....	4.06	33.50	
Carpenter work 5.....	....	.....	20.30	
Iron	50	.....	1.50	
Earthwork 50–12	....	.....	6.00	
Freight & Haul. 44.....	....	.....	.20	
				115.60

1647–15. Bridge, 16 x 54:				
Redwood timber 14	....	2.09	29.25	
Pine 11	....	4.16	45.75	
Freight & Haul. 8.25	....	6.25	51.55	
Carpenter work 5	....	.....	31.25	
Iron 3	100	.....	3.00	
Freight & Haul 39	....	.....	.40	
Earth 80 yds. 8	....	.....	6.40	
				167.60
1647–15. Bridge, 16 x 54:				
Same as above	100	6.25	.....	167.60
1651–90. Distributing gate, single:				
Same as 1429–70	60	2.91	91.20	
1658–15:				
do. do.	60	2.91	91.20	
				182.40
1659–50. Box, 2 x 2:				
Same as 1506–40	7	0.43	.....	11.85
1697–45. Distributing gate:				
3 x 8½, 1429–70	40	1.94	.....	45.60
	584	32.94	.....	$28883.15
1740 Bro't for'd				$28883.15
1701–40. Inlet gate, double:				
Same as 1462–15	76	5.97	.....	171.80
1705–70:				
Do. Do.	76	5.97	.....	171.80
1715–90. Distributing gate, single:				
Same as 1429–70	60	2.91	91.20	
1715–90:				
Do. Do.	60	2.91	91.20	
				182.40
1716–80. Bridge, 16 x 56:				
Redwood timber 14	....	1.65	23.10	
Pine 11	....	4.93	54.25	
Freight & Haul. 8.25	....	6.58	54.30	
Carpenter Work 5	....	.....	32.90	
Iron 3	66	.....	2.20	
Freight & Haul 39	....	.....	.25	
Earth 80 yds. 8	....	.....	6.40	
				173.40

1716–80. Bridge, 16 x 66:

Redwood timber 14	....	2.51	35.15	
Pine 11	....	4.75	52.25	
Freight & Haul. 8.25	....	7.26	59.90	
Carpenter Work 5	....	.....	36.30	
Iron 3	85	.....	2.55	
Freight & Haul. 39	....	.....	.35	
Earth 80 @ 8	....	....	6.40	
				192.90

1719–90. Distributing gate, single:

Same as 1429–70	60	2.91	91.20	

1720:

Do. Do.	60	2.91	91.20	

1735–10:

Do. Do.	60	2.91	91.20	
				273.60

1740–60. Inlet gate, double:

Same as 1462–15	76	5.97	.....	171.80

1748. Dist'g gate, single:

Same as 1429–70	60	2.91	91.20	

1748:

Do. Do.	60	2.91	91.20	

1778–90:

Do. Do.	60	2.91	91.20	

1780–08:

Do. Do.	60	2.91	91.20	
				364.80
Forward	919	57.94	.....	$30585.65
1741 Bro't for'd				$30585.65

1780–08. Bridge, 20 x 50:

Redwood timber 14	....	3.74	52.35	
Pine 11	....	4.63	50.95	
Freight & Haul. 8.25	....	8.37	69.05	
Carpenter Work 5	....	.....	41.85	
Iron 3	135	.....	4.05	
Freight & Haul. 39	....	.....	.55	
Earth 80 @ 8	....	.....	6.40	
				225.20

1780–08. Regulating gate, 16 x 36:

Redwood plank 13	....	5.78	75.15	
Do. timber 14	....	4.34	60.75	
Pine 11	....	5.78	63.60	
Freight & Haul. 8.25	....	15.90	131.15	
Carpenter work 7	....	.....	111.30	
Iron 3	328	.....	9.85	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 39	364	.....	1.45	
Earthwork 80 yds. 12	....	.....	9.60	
				466.95

1813. Inlet gate, single:

Same as 1646 x 10	50	4.06	.....	115.60

1815. Distributing gate, single:

Same as 1429–70	60	2.91	91.20	

1816–20:

Do. Do.	60	2.91	91.20	
				182.40

1829–70:

Same as 1506–40	7	0.43	.....	11.85

1830–50. Distributing gate, double:

Redwood plank 13	....	3.02	39.25	
" timber 14	....	1.43	20.00	
Freight & Haul. 8.25	....	4.45	36.70	
Carpenter Work 5	....	.....	22.25	
Iron 3	90	.....	2.70	
Freight & Haul. 39	....	.....	.35	
Earth 80 yds. 12	....	.....	10.80	
				132.05
Forward	730	39.03	.....	$31719.70
1742 Bro't for'd				$31719.70

1830–50. Distributing gate, single:

Same as 1429–70	60	2.91	91.20	

1835–50:

Do. Do.	60	2.91	91.20	
				182.40

1837–50. Bridge, 12 x 54:

Redwood timber 14	....	2.06	28.85	
Pine 11	....	2.92	32.10	
Freight & Haul. 8.25	....	4.98	41.00	
Carpenter work 5	....	.....	24.90	

Iron 3	92	.....	2.75	
Freight & Haul. 39	....	.....	.35	
Earth 80 yds. 8	....	.....	6.40	
				136.35
1837–50. Bridge, 16 x 64:				
Redwood timber 14	....	2.12	29.70	
Pine 11	....	4.61	50.70	
Freight & Hauling 8.25	....	6.73	55.50	
Carpenter work 5	....	.....	33.65	
Iron 3	....	.....	2.70	
Freight & Haul 39¢	....	.....	.35	
Earth 80 @ 8	....	.....	6.40	
				179.00
1848–15. Distributing gate, single:				
Same as 1429–70	60	2.91	91.20	
1848–60:				
Do. Do.	60	2.91	91.20	
1859–10:				
Do. Do.	60	2.91	91.20	
1865–35:				
Do. Do.	60	2.91	91.20	
1865–90:				
Do. Do.	60	2.91	91.20	
				456.00
1869–30. Inlet gate, single:				
Same as 1646–10	50	4.06	.....	115.60
1871. Regulating gate, 6 x 48:				
Redwood timber 14	....	2.24	31.35	
Do. plk. 13	....	6.74	87.60	
Pine	....	3.89	42.80	
Freight & Haul. 8.25	....	12.87	106.15	
Carpenter work 7	....	.....	90.10	
Forward	652	49.01	358.06	32789.05
1743 Bro't for'd			$358.00	32789.05
Iron	254	.....	7.60	
Block & Rope	36	.....	4.10	
Freight & Haul.	290	.....	1.15	
Earthwork 70 @	12	.....	8.40	
				379.25

1882–25. Box, 2 x 2:				
Same as 1506–40.....	70	0.43	.....	11.85
1887–65. Box, 3 x 3:				
Redwood plk. 14.....	....	0.65	9.15	
Freight & Haul. 8.25.....	....	.....	5.35	
Carpenter Work 5.....	....	.....	3.25	
Iron 3	26	.....	.75	
Ft. & Haul. 39.....	....	.....	.10	
Earthwork 30 12.....	....	.....	3.60	
				22.20
1893–50. Distributing gate, single:				
Same as 1429–70.....	60	2.91	.....	91.20
1893–84. Bridge, 14 x 56:				
Redwood Timber 14.....	....	2.05	28.70	
Pine 11	....	3.70	40.70	
Freight & Haul. 8.25.....	....	5.75	47.45	
Carpenter work 5.....	....	.....	28.75	
Iron 3	73	.....	2.20	
Freight & Haul. 39.....	....	.....	.30	
Earth 80 8.....	....	.....	6.40	
				154.50
1893–84. Regulating gate, 16 x 36:				
Redwood plk. 13....	....	3.74	48.60	
do. timber 14....	....	2.02	28.30	
Pine 11	....	5.24	57.65	
Freight & Haul. 8.25.....	....	11.00	90.75	
Carpenter work 7	....	.....	77.00	
Iron	274	.....	8.20	
Blocks & Ropes.....	36	.....	4.10	
Freight & Haul. 39.....	310	.....	1.25	
Earth 80 @ 12.....	....	.....	9.60	325.45
Forward	694	20.74	.....	$33773.50
1744 Bro't for'd				$33773.50
1894–35. Inlet gate, single:				
Same as 1646–10.....	50	4.06	.....	115.60
1940. Distributing gate, single:				
Redwood plank 13.....	....	1.87	24.30	
Do. timber 14	....	1.04	14.55	
Freight & Haul. 7.65.....	....	2.91	22.25	
Carpenter work 5.....	....	.....	14.55	
Iron 3	60	.....	1.80	
Freight & Haul. 37.....	....	.....	.20	
Earth 50 yds. 12.....	....	.....	6.00	
				83.65

1940–20. Distributing gate, single:				
Same as 1940	60	2.91	83.65	
1980–80:				
Do. Do.	60	2.91	83.65	
1980–80:				
Do. Do.	60	2.91	83.65	250.95
2004–70. Regulating gate:				
Redwood plank 13	....	6.16	80.10	
do. timber 14	....	4.46	62.45	
Pine 11	....	3.64	40.05	
Freight & Haul. 7.65	....	14.26	109.10	
Carpenter work 7	....	.....	99.80	
Iron 3	354	.....	10.60	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 37	390	.....	1.45	
Earth 100 12	....	.....	12.00	419.65
1002–20. Distributing gate, single:				
Same as 837	60	2.91	92.25	
1163–75:				
Do. Do.	60	2.91	92.25	184.50
1519–43. Bridge, 16 x 72:				
Redwood timber 14	....	1.64	22.95	
Pine 11	....	5.75	63.25	
Freight and Haul. 8.25	....	7.39	60.95	
Carpenter work 5	....	.....	36.95	
Forward	764	43.17	184.10	34827.85
1745 Bro't for'd			$184.10	$34827.85
Iron 3	113	.....	3.40	
Freight & Haul. 39	....	.....	.45	
Earth 80 8	....	.....	6.40	194.35
				35022.20
Deduct error in carpenter work, on Distributing Gates. Single 56 x $5.80				324.80
To Los Banos Creek				$34697.40

Bro't for'd				$34697.40
2017. Waste gate:				
Redwood Plank 13	....	5.70	74.50	
Do. timber 14	....	5.92	82.90	
Pine	....	12.38	136.20	
Carpenter work 7.....	....	24.00	168.00	
Piles 500 ft. 13¢.....	....	3.33	65.00	
Driving 340 ft. 5¢.....	....	.....	17.00	
Freight & Haul. 7.65.....	....	27.33	209.10	
Iron	640	.....	19.20	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul.....	676	.....	2.50	
Earth 200 @ 12.....	....	.....	24.00	
				802.50
2017. Regulating gate, 22 x 50:				
Redwood plank 13.....	....	7.24	94.10	
" timber 14	....	7.26	101.65	
Pine 11	....	9.27	102.	
Freight & Haul. 7.65.....	....	23.77	181.85	
Carpenter work 7.....	....	.....	166.40	
Iron 3	464	.....	13.90	
Blocks & Rope	72	.....	8.20	
Freight & Haul. 37.....	536	.....	2.00	
Earthwork 50 12.....	....	.....	6.00	
				676.10
2021–50. Distributing gate, single:				
Same as 1940.....	60	2.91	.....	83.65
Forward	1277	54.01	.....	$36,259.65
1746 Bro't for'd				$36,259.65
2055–10. Box, 2 x 4:				
Redwood 13	....	0.43	5.60	
Freight 7.65	....	.....	3.30	
Carpenter work 5.....	....	.....	2.15	
Iron 3	7	.....	.20	
Earth 3 12.....	....	.....	.35	
				11.60
2077. Bridge, 16 x 72:				
Redwood timber 14.....	....	1.97	27.60	
Pine 11	....	5.63	61.95	
Ft. & Haul. 7.65.....	....	7.60	58.15	
Carpenter work 5.....	....	.....	38.00	
Iron	120	.....	3.60	
Ft. & Haul. 37.....	....	.....	.45	
Earth 80 yds. 8.....	....	.....	6.40	
				196.15

2977–65. Distributing gate, single:				
Same as 1940	60	2.91	83.65	
2088–50, Box 3 x 3	26	0.65	22.00	
				105.65
2102–45. Distributing gate, single:				
Same as 1940	60	2.91	.....	83.65
2115–35. Bridge, 16 x 62:				
Redwood timber 14	....	1.97	27.60	
Pine	....	4.29	47.20	
Freight & Haul. 7.65	....	6.26	47.90	
Carpenter Work 5	....	.....	31.30	
Iron	94	.....	2.80	
Freight & Haul. 37	....	.....	.35	
Earth 80 @ 8	....	.....	6.40	
				163.55
2117–20. Distributing gate, single:				
Same as 1940	60	2.91	83.65	
2121:				
Box, 2 x 3	7	0.40	11.00	
2127–50. Dist. gate:				
Same	60	2.91	83.65	
2137–90:				
Do. Do. 1940	60	2.91	83.65	
2153–05:				
Do. Do.	60	2.91	83.65	345.60
Ford.	614	32.80	.....	37165.85
1747 Bro't for'd				$37,165.85
2155–15:				
Box, 2 x 3	....	7.04	.....	11.00
2155–25. Regulating gate, 24 x 42:				
Redwood plank 13	....	6.72	87.35	
do. timber 14	....	4.24	59.35	
Pine	....	7.20	79.20	
Freight & haul. 7.65	....	18.16	138.90	
Carpenter work 7	....	.....	127.10	

Iron 3	304	.....	9.10	
Block & Rope	36	.....	4.10	
Freight & Haul. 37	340	.....	1.25	
Earth 80 12	....	.....	9.60	
				515.95
2189–80. Box	26	0.65	.....	22.00
2193–60. Bridge, 16 x 70:				
Redwood timber 14	....	2.26	31.65	
Pine 11	....	5.46	60.05	
Freight & Haul. 7.65	....	7.72	59.05	
Carpenter work 5	....	.....	38.60	
Iron	168	.....	5.05	
Freight & Haul. 37	....	.....	.60	
Earth 80 @8	....	.....	6.40	
				201.40
2194. Box, 2 x 4....	7	0.43	.....	11.85
2205–30. Inlet gate, single:				
Redwood Plank 13	....	2.68	34.85	
" timber 14	....	1.32	18.50	
Freight & Haul. 7.65	....	4.00	30.60	
Carpenter work 5	....	.....	20.00	
Iron 3	50	.....	1.50	
Ft. & Haul. 37	....	.....	.20	
Earthwork 60 12	....	.....	7.20	
				112.85
2254–40. Bridge, 16 x 70:				
Redwood plk. 13	....	1.0	13.00	
" timber 14	....	3.29	46.05	
Pine	....	6.51	71.60	
Freight & Haul. 6.5	....	10.80	81.00	
Forward	562	42.16	211.65	38040.90
1748 Bro't for'd			$211.65	$38,040.90
Carpenter Work 5	....	.....	54.00	
Iron	148	.....	4.45	
Freight & Haul. 35	....	.....	.50	
Earth 80 8	....	.....	6.40	
				277.00
2261–25:				
Inlet Gate, Single	50	4.0	112.25	
2276–25:				
Dist. " "	60	2.91	83.20	

2299–45:				
Box, 3 x 3.....	26	0.65	22.00	
2312–65:				
" "	26	0.65	22.00	
2325–25:				
" "	26	0.65	22.00	
				261.45
2341–42. Bridge, 16 x 66:				
Redwood timber 14.....	....	2.21	30.95	
Pine	....	4.16	45.75	
Freight & Haul. 7.50.....	....	6.37	47.75	
Carpenter Work 5.....	....	.....	31.85	
Iron	72	.....	2.15	
Freight & Haul. 35.....	....	.....	.25	
Earth 80 @ 8.....	....	.....	6.40	
				165.10
2371. Distributing gate, single:				
R. W. plank 13.....	....	1.87	24.30	
do. timber 14	....	1.04	14.55	
Ft. & Haul. 7.50.....	....	2.91	21.80	
Carpenter work 5.....	....	.....	14.55	
Iron	60	.....	1.80	
Ft. & Haul. 36.....	....	.....	.20	
Earth 50 yds. 12.....	....	.....	6.00	
				83.20
2373–80:				
Dist. Gate, Single.....	60	2.91	.....	83.20
2398–50:				
Inlet Gate, Single.....	50	4.00	.....	111.05
2399–70:				
Dist. Gate, Double.....	90	4.45	.....	127.40
2405–90. Bridge, 16 x 72:				
Redwood timber 14.....	....	1.81	25.35	
Pine	....	4.74	52.15	
Freight & Haul. 7.20.....	....	6.55	47.00	
Carpenter 5	....	.....	32.75	
Forward	668	36.05	$157.25	30,149.30
1749 Bro't for'd			$157.25	39149.30
Iron @ 3.....	78	.....	2.35	
Freight & Haul. 35.....	....	.....	.25	
Earth 80 @ 8.....	....	.....	6.40	
				166.25

2406–70:				
Dist. Gate, Single.....	60	2.91	82.35	
2432–50:				
" " " Double ..	90	4.45	127.40	
2434:				
" " " Do. ..	90	4.45	127.40	
2460:				
" " " Single ...	60	2.91	81.50	418.65
2460–50. Regulating Gate, 16 x 40:				
Redwood Plk. 13	....	7.61	98.90	
do. timber 14	....	2.81	39.35	
Pine 11	....	7.45	81.95	
Freight & Haul. 6.90.....	....	17.87	123.30	
Carpenter work 7.....	....	.....	118.10	
Iron	400	.....	12.00	
Blocks & Rope.....	72	.....	8.20	
Freight & Haul. 33.....	472	.....	1.55	
Earth 100 12.....	....	.....	12.00	
				495.35
2462–05. Regulating gate, 8 x 42:				
Redwood plk. 13.....	....	6.28	81.65	
" tim. 14.....	....	3.17	44.40	
Pine 11	....	3.86	42.45	
Ft. & Haul. 6.90.....	....	13.31	91.85	
Carpenter 7	....	.....	93.15	
Iron 3	254	.....	7.60	
Blocks & Rope.....	36	.....	4.10	
Ft. & Haul. 33.....	290	.....	.95	
Earth 70 @ 12.....	....	.....	8.40	
				374.55
2485–60. Dist. gate, single.	60	2.91	.....	81.50
2485–70. Inlet gate, double:				
Redwood plk. 13.....	....	3.66	47.60	
" timber 14	....	1.84	25.75	
Freight & Haul. 6.90.....	....	5.50	37.95	
Carpenter work 5.....	....	.....	27.50	
	1092	54.31	138.80	40,685.60
1750 Bro't forwd.			$138.80	$40,685.60
Iron 3	65	.....	1.95	
Ft. & Haul. 33.....	....	.....	.20	
Earth 80 12.....	....	.....	10.80	
				141.75

2501–60:				
Dist. Gate, Single.....	60	2.91	81.50	
2501–60:				
Inlet Gate, Double.....	65	5.50	141.75	
2578–45:				
Dist. Gate, Single.....	60	2.91	81.50	
2597–20:				
Do. Do. Do.	60	2.91	81.50	
2609–90:				
Box 3 x 3.....	26	0.65	21.35	
				407.60
2610–30. Regulating gate, 16 x 42:				
Redwood plk. 13.....	....	5.64	73.30	
Do. timber 14	....	3.22	45.10	
Pine 11	....	5.11	56.20	
Freight & Haul. 6.90.....	....	13.97	96.40	
Carpenter 7	....	.....	97.80	
Iron	294	.....	8.80	
Blocks & Rope.....	36	.....	4.10	
Freight & Haul. 33.....	330	.....	1.00	
Earth 70 @ 12.....	....	.....	8.40	
				391.10
2626. Distrib. Gate, Single..	60	2.91	.....	81.50
2626–35. Bridge, 16 x 68:				
Redwood timber 14	....	2.28	31.90	
Pine 11	....	5.72	62.90	
Freight & Haul. 6.90.....	....	8.00	55.20	
Carpenter 5	....	.....	40.	
Iron 3	90	.....	2.70	
Freight & Haul. 33.....	....	.....	.30	
Earth 80 @ 8.....	....	.....	6.40	
				199.40
2669–50:				
Box 3 x 3.....	26	0.65	22.00	
2684–70:				
" "	26	0.65	22.00	
2687–20:				
Dist. Gate, Single.....	60	2.91	82.35	
2689–75:				
Box 3 x 3.....	26	0.65	22.00	

2702–90:				
" "	26	0.65	22.00	
2705–20:				
Dist. Gate, Single.....	60	2.91	82.35	
				252.70
	1004	48.18	.....	$42,159.65
1751 Bro't ford.				$42,159.65
2722–35:				
Box 3 x 3.....	26	0.65	22.00	
2728–80:				
Dist'g Gate, Single.....	60	2.91	82.35	
				104.35
2740. Regulating gate, 18 x 42:				
Redwood plk. 13.....	....	6.48	84.25	
Do. timber 14	....	2.42	33.90	
Pine 11	....	6.25	68.75	
Freight & Haul. 7.20.....	....	15.15	109.10	
Carpenter 7	....	.....	106.05	
Iron	300	.....	9.00	
Block & Rope.....	36	.....	4.10	
Freight & Haul. 34.....	336	.....	1.15	
Earth 70 12.....	....	.....	8.40	
				424.70
2754–80:				
Box 3 x 4.....	26	0.65	22.00	
2754–95:				
Do. Do.	26	0.65	22.00	
2768–30:				
Dist'g Gate, Single.....	60	2.91	82.35	
				126.35
2792–60. Dist'g Gate, Triple:				
Redwood plk. 13	....	4.40	57.20	
" Tim. 14	....	1.80	25.20	
Freight & Haul. 7.20.....	....	6.20	44.65	
Carpenter 7	....	.....	43.40	
Iron	116	.....	3.50	
Freight & Haul. 34.....	....	.....	.40	
Earth 130 12.....	....	.....	15.60	
				189.95

2793–10:				
Same as above.....	116	6.20	189.75	
2803:				
Dist'g Gate, Single.....	60	2.91	82.35	
2810–10:				
Box 3 x 3.....	26	0.65	22.00	
2816–15:				
Dist'g Gate, Single.....	60	2.91	82.35	
2825–50:				
Box 3 x 3.....	26	0.65	22.00	
				398.45
2825. Bridge, 18 x 66:				
Redwood timber 14.....	....	2.14	29.95	
Pine 11	....	5.41	59.50	
Freight & Haul. 7.20.....	....	7.55	54.35	
Carpenter 5	....	.....	37.75	
	902	49.99	$181.55	13,403.45
1752 Bro't forward			$181.55	$13,403.45
Iron 3	95	.....	2.75	
Freight & Haul. 34.....	....	.....	.30	
Earth 80 yds. 8.....	....	.....	6.40	
				191.00
2827–10:				
Distrbg. Gate, Triple.....	116	6.20	189.95	
2827–10:				
Do. Do. Do.	116	6.20	189.95	
2835–70:				
Do. Do. Single.....	60	2.91	82.35	
2846–45:				
Box 3 x 3.....	26	0.65	22.00	
				566.60
2852–25:				
Dist'g Gate, Single.....	60	2.91	82.35	
2856–30. Regulating gate, 16 x 42:				
Redwood plk. 13	....	7.91	102.80	
Do. timber 14	....	1.62	22.65	

Pine 11	....	5.67	62.35	
Freight & Haul. 7.20	....	15.20	109.45	
Carpenter Work 7	....	.....	106.40	
Iron 3	330	.....	9.90	
Blocks & Rope	36	.....	4.10	
Freight & Haul	366	.....	1.25	
Earth 60 yds. 12	....	.....	7.20	
				426.10

2856–53. Waste gate, 16 x 34:

Redwood plk. 13	....	4.44	57.75	
Do. timber 14	....	2.51	35.15	
Pine "	....	5.29	58.20	
Freight & haul. 7.20	....	12.24	88.10	
Carpenter 7	....	.....	85.65	
Iron 3	264	.....	7.90	
Blocks & Rope	36	.....	4.10	
Freight & haul. 34	300	.....	.95	
Earth 60–12	....	.....	7.20	
				345.00

2856–70. Regulating gate, 8 x 42:

Redwood plk. 13	....	5.71	74.25	
Do. timber 14	....	1.77	24.80	
Pine 11	....	3.77	41.45	
Freight & haul. 7.20	....	11.25	81.00	
Carpenter 7	....	.....	78.75	
Forward	1067	57.56	$300.25	$44,932.15
1753 Bro't for'd			$300.25	$44,932.15
Iron 3	282	.....	8.45	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 34	318	.....	1.05	
Earth 100 12	....	.....	12.00	
				325.85

2876–80:

Dist'g Gate, Triple	116	6.20	.....	189.95

2876–80. Inlet gate, triple:

Redwood plk. 13	....	4.64	60.30	
do. timber 14	....	2.36	33.05	
Freight & Haul. 7.20	....	7.00	50.40	
Carpenter 5	....	.....	35.00	
Iron 3	116	.....	3.50	
Ft. & Haul. 34	....	.....	.40	
Earth 135 12	....	.....	16.20	
				198.85

2881–95. Bridge, 16 x 63:

Redwood timber 14	....	2.02	28.25	
Pine 11	....	5.20	57.20	
Freight & Haul. 7.20	....	7.22	52.00	
Carpenter work 5	....	.....	36.10	
Iron 3	116	.....	3.50	
Freight & Haul. 34	....	.....	.40	
Earth 80 @ 8	....	.....	6.40	
				183.85
2893–80. Dist'g Gate, Single.	60	2.91	82.35	
2910–60. Do. Do. Do.	60	2.91	82.35	
				164.70

2911–15. Bridge, 16 x 69:

Redwood timber 14	....	2.34	32.75	
Pine 11	....	4.76	52.35	
Freight & Haul. 7.20	....	7.10	51.10	
Carpenter 5	....	.....	35.50	
Iron 3	92	.....	2.75	
Freight & Haul. 34	....	.....	.30	
Earth 80 @ 8	....	.....	6.40	
				181.15
2911–45. Dist'g Gate, Single.	60	2.91	82.35	
2928–15. Box	40	1.00	30.00	112.35
	942	37.25	.....	$46,288.85
1754 Bro't for'd				$46,288.85

2936–85. Bridge, 16 x 64:

Redwood Tim. 14	....	1.87	26.20	
Pine 11	....	4.61	50.70	
Freight & haul. 7.20	....	6.48	46.65	
Carpenter 5	....	.....	32.40	
Iron 3	97	.....	2.90	
Freight & haul. 34	....	.....	.35	
Earth 80 a 8	....	.....	6.40	
				165.60
2937–65:				
Dist'g Gate, single	60	2.91	82.35	
2948–85:				
Do. Do. Do.	60	2.91	80.60	
2967–60:				
Do. Do. Do.	60	2.91	80.60	
				243.55

2968. Regulating gate, 16 x 42:

Redwood plk. 13	....	7.59	98.70	
Do. timber 14	....	2.12	29.70	
Pine 11	....	7.64	84.05	
Freight & haul. 6.60	....	17.35	114.50	
Carpenter 7	....	.....	121.45	
Iron 3	318	.....	9.55	
Blocks & Rope	36	.....	4.10	
Freight & haul. 29	354	.....	1.05	
Earth 100–12	12	.....	12.00	
				475.10

2981–80:

Box 2 x 4	26	0.65	21.60	
" 2 x 5	26	0.65	21.60	

3003–50:

Dist'g Gate, single	69	2.91	80.60	

3027–85:

Do. Do. Do.	60	2.91	80.60	

3048–90:

Box 2 x 4	26	0.65	21.60	

3063–75:

Do. Do.	26	0.65	21.60	

3069–65:

Dist'g Gate, Single	60	2.91	80.60	
				328.20

3070–10. Regulating gate, 9 x 40:

Redwood plk. 13	....	5.06	65.80	
Do. timber 14	....	2.66	37.25	
Pine 11	....	3.62	39.80	
Freight & haul. 6.60	....	11.34	74.85	
Carpenter 7	....	.....	79.50	
Forward	879	55.23	$297.20	47,501.30
1755 Bro't for'd			297.20	47,501.30
Iron 3	230	.....	6.90	
Blocks & Rope	36	.....	4.10	
Freight & haul. 29	266	.....	.75	
Earth 60 a 12	....	.....	7.20	316.15

3078–40. Bridge, 16 x 66:

Redwood timber 14	....	2.79	36.25	
Pine 11	....	5.94	65.35	
Freight & haul. 6.60	....	8.73	57.60	
Carpenter 5	....	.....	43.65	
Iron	112	.....	3.35	
Freight & haul. 29	....	.....	.35	
Earth 80 a 8	....	.....	6.40	
				212.95

3079–37:

Dist'g Gate, Single	60	2.91	80.60	

3094–50:

Do. Do. Do.	60	2.91	80.60	

3119–40:

Box 3 x 3	26	0.65	21.60	

3125–40:

Dist'g Gate, Single	60	2.91	80.60	

3136–20:

Box 3 x 3	26	0.65	21.60	

3155–55:

Dist'g Gate, Single	60	2.91	80.60	

3158–85:

Box 3 x 3	26	0.65	21.60	

3170–70:

" "	26	0.65	21.60	

3179:

Dist'g Gate, Single	60	2.91	80.60	
				489.40

3179–60. Regulating gate, 16 x 42:

Redwood plk. 13	....	10.42	135.50	
Do. tim. 14	....	0.94	13.15	
Pine 11	....	4.71	51.80	
Freight & haul. 6.60	....	16.07	106.05	
Carpenter 7	....	.....	112.50	
Iron 3	287	.....	8.60	
Blocks & Rope	36	.....	4.10	
Freight & haul. 29	323	.....	.95	
Earth 90 a 12	....	.....	10.80	
				443.45

	3192–10:			
Dist'g Gate, Single.....	60	2.91	80.60	
	3192–45:			
Inlet Gate, do.	50	4.00	108.65	189.25
Forward	1143	48.86	.....	49,152.50
1756 **Bro't for'd**				$49,152.50
	3202–90:			
Box 4 x 4.....	40	1.00	29.40	
	3218–50:			
Do. 2 x 2.....	15	0.30	10.00	
	3224:			
Do. 3 x 3.....	26	0.65	21.60	
	3237–40:			
Distg. Gate, Single.....	60	2.91	80.60	
				141.60
	3253–35. Bridge, 16 x 66:			
Redwood timber 14.....	....	2.24	31.35	
Pine 11	....	5.90	64.90	
Freight & Haul. 6.60.....	....	8.14	53.70	
Carpenter 5	....	.....	40.70	
Iron 3	140	.....	4.20	
Freight & Haul. 29.....	....	.....	.40	
Earth 80 @ 8.....	....	.....	6.40	
				201.65
	3252–80:			
Box 3 x 5.....	40	1.00	29.40	
	3278–10:			
Distg. Gate, Single.....	60	2.91	80.60	
	3283–70:			
Do. Do. Do.	60	2.91	80.60	
	3302–40:			
Box 3 x 3.....	26	0.65	21.60	
				212.20
	3303. Regulating gate, 16 x 40:			
Redwood plk. 13.....	....	7.97	103.60	
do. tim. 14	....	1.86	26.05	

Pine 11	....	5.40	59.40	
Freight & Haul. 6.30	....	15.23	95.95	
Carpenter 7	....	.....	106.60	
Iron 3	287	.....	8.60	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 29	326	.....	.95	
Earth 90 @ 12	....	.....	10.80	
				416.05
3317–15:				
Box 3 x 3	26	0.65	21.40	
3314–20:				
Distg. Gate, Single	60	2.91	79.70	
3356–60:				
Do. Do. Do.	60	2.91	79.70	
3362:				
Box 3 x 3	26	0.65	21.40	
3366–80:				
Distg. Gate, Single	60	2.91	79.70	
3378–50:				
Do. Do. Do.	60	2.91	79.70	
3393:				
Box 4 x 4	40	1.00	29.20	390.80
Forward	1086	49.64		50,514.80
1757 Bro't for'd				$50514.80
3409–70:				
Distg. Gate, Single	60	2.91	79.70	
3409–50:				
Box 3 x 3	26	0.65	21.40	101.10
3410–5. Regulating gate, 16 x 35:				
Redwood plk. 13	....	7.97	103.60	
Do. timber 14	....	1.86	26.05	
Pine 11	....	5.40	59.40	
Freight & Haul. 6.30	....	15.23	95.95	
Carpenter 7	....	.....	106.60	
Iron 3	287	.....	8.60	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 29	323	.....	.95	
Earth 90 @ 12	....	.....	10.80	
				416.05

3432–55. Bridge, 16 x 60:				
Redwood timber 14	....	2.16	30.25	
Pine 11	....	5.40	59.40	
Freight & Haul. 6.30	....	7.56	47.60	
Carpenter 5	....	.....	35.80	
Iron 3	....	.....	3.60	
Freight & haul. 29	....	.....	.35	
Earth 80 @ 8¢	....	.....	6.40	
				183.40
3452–80:				
Distg. Gate, Single	60	2.91	79.70	
3474–10:				
Do. Do. Do.	60	2.91	79.70	
3489–55:				
Box 3 x 3	26	0.65	21.40	
				180.80
3489–90. Bridge, 16 x 60:				
Redwood timber 14	....	2.12	29.70	
Pine 11	....	5.04	55.45	
Freight & Haul. 6.30	....	7.16	45.10	
Carpenter wk. 5	....	.....	35.80	
Iron 3	127	.....	3.80	
Freight & Haul. 29	....	.....	.40	
Earth 80 @ 8	....	.....	6.40	
				176.65
3509–80:				
Box 3 x 3	26	0.65	21.40	
2509–80:				
Inlet Gate, Single	50	4.00	108.65	130.05
Forward	838	44.63	.....	51,702.85
1758 Bro't for'd				$51702.85
3510–30:				
Distg. Gate, Single	60	2.91	79.70	
3520–60:				
Box 3 x 5	40	1.00	29.20	
3522–90:				
Do. 4 x 5	50	1.30	36.50	
3540–53:				
Distg. Gate, Single	60	2.91	79.70	
				225.10

3541–10. Waste gate, 16 x 16:				
Redwood plk. 13	....	5.15	66.95	
Do. timber 14	....	5.00	70.00	
Pine 11	....	3.72	40.90	
Freight & Haul. 6.30	....	13.87	87.40	
Carpenter 7	....	.....	97.10	
Iron 3	260	.....	7.80	
Block & Rope	36	.....	4.10	
Freight & Haul. 29	296	.....	.90	
Earthwork 100 @ 12	....	.....	12.00	
				387.15
				52315.10
3557. Regulating gate, 17 x 34:				
Redwood plk. 13	....	10.84	140.90	
do. tim. 14	....	6.47	90.60	
Pine 11	....	8.92	98.10	
Freight & Haul. 6.30	....	26.23	165.25	
Carpenter 7	....	.....	183.60	
Iron 3	484	.....	14.50	
Blocks & Rope	36	.....	4.10	
Freight & Haul. 29	520	.....	1.55	
Earthwork 100 @ 12	....	.....	12.00	
				710.60
3558–80. Regulating gate, 17 x 34:				
Same as above	484	26.23	.....	710.60
3592–35:				
Distg. Gate, Single	60	2.91	79.70	
3600:				
Box 3 x 3	26	0.65	21.40	
3603–05:				
Distg. Gate, Single	60	2.91	79.70	
3603–30:				
Do. Do. Do.	60	2.91	79.70	
3605–65:				
Do. Do. Do.	60	2.91	79.70	
3613–90:				
Box 3 x 3	26	0.65	21.40	
3624–80:				
Distg. Gate, Single	60	2.91	79.70	441.30
Forward	**1790**	**90.40**	.....	**54,177.60**

1759	**Bro't for'd**				$54177.60
	3637–15. Bridge, 18 x 60:				
	Redwood Timber 14.....	....	2.34	32.75	
	Pine 11	....	4.68	51.50	
	Freight & Haul. 6.00.....	....	7.02	42.10	
	Carpenter 5	....	.....	35.10	
	Iron 3	....	.....	3.60	
	Freight & Haul. 25.....	....	.....	.30	
	Earth 80 @ 8.....	....	.....	6.40	
					171.75
	3645–40:				
	Distg. Gate, Single.....	60	2.91	78.85	
	3649–70:				
	Box 3 x 3.....	26	0.65	21.25	
	3661–95:				
	Distg. Gate, Single.....	60	2.91	78.85	
	3666–45:				
	Box 3 x 3.....	26	0.65	21.25	
	3677–75:				
	Distg. Gate, Single.....	60	2.91	78.85	
	3689–85:				
	Do. Do. Do.	60	2.91	78.85	
	3696–25:				
	Box 3 x 3.....	26	0.65	21.25	
					379.15
	3696–70. Regulating gate, 16 x 35:				
	Redwood plk. 13.....	....	5.32	169.15	
	do. tim. 14	....	3.17	44.40	
	Pine 11	....	5.34	58.75	
	Freight & Haul. 6.....	....	13.83	87.10	
	Carpenter 7	....	.....	96.80	
	Iron 3	234	.....	7.00	
	Blocks & Rope.....	36	.....	4.10	
	Freight & Haul. 25.....	270	.....	.70	
	Earth 80 @ 12.....	....	.....	9.60	
					477.60
	3710–38:				
	Distribg. Gate, Single.....	60	2.91	78.85	
	3727–75:				
	Do. Do. Do.	**60**	**2.91**	**78.85**	

3741–20:				
Box 2 x 3.....	20	0.40	15.00	
3755–20:				
Distg. Gate, Single.....	60	2.91	78.85	
End:				
Do. Do. Do.	60	2.91	78.85	
				330.40
	932	46.48	.....	$55,536.50

Total Iron lbs.... 30,551
" Lumber.... 1,689,410 ft. B. M.

(Add) (692.)
(1,124.)
(———)
(57,352.50)

1760	Iron.	Lumber.	
To Los Banos 57.967 miles built 1873	#15,868	936,720	$34,697.40
To Oristimba 28.868 miles built in 1878.....	12,431	632,660	17,617.70
To End of Canal, 4.10 miles built in 1884.....	2,252	114,890	3,221.40
Total.....	30,551	1,689,410	$55,536.50

(5.14)
(———)
(1684.270)

R. H. GOODWIN,
Consulting Engineer.

(Endorsed:) Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1761 DEF'TS' EXHIBIT C.

Memorandum as to Election of Trustees of the San Joaquin & Kings River, Canal & Irrigation Co.

December 4th, 1877. Joseph Sedgley, Michael Reese, Jesse S. Potter, Henry Miller, Chas. Lux, Samuel Crim, William Center.

December 3rd, 1878. Joseph Sedgley, Jesse S. Potter, Chas. Lux, Samuel Crim, William Center, Joseph Rosenberg, John H. Bolton.

December 2nd, 1879. Joseph Sedgley, Jesse S. Potter, J. C. Wilmerding, Henry Pierce, Chas. Lux, William Center, Joseph Rosenberg.

December 7th, 1880. Chas. Baum, Henry Pierce, Joseph Rosenberg, Joseph Sedgley, Chas. Lux, Jesse S. Potter, J. C. Wilmerding.

December 6th, 1881. Chas. Baum, Joseph Sedgley, Chas. Lux, J. C. Wilmerding, Henry Pierce, Joseph Rosenberg, J. S. Potter.

December 5th, 1882. Chas. Lux, J. C. Wilmerding, Jesse S. Potter, Chas. Baum, Joseph Sedgley, Joseph Rosenberg, Henry Pierce.

December 4th, 1883. Chas. Lux, Joseph Rosenberg, William Center, D. E. Martin, J. C. Wilmerding, Henry Pierce, Jesse S. Potter.

December 2nd, 1884. William Center, Chas. Lux, D. E. Martin, Jesse S. Potter, Joseph Rosenberg, J. C. Wilmerding, E. L. Woods.

December 1st, 1885. William Center, D. E. Martin, J. C. Wilmerding, Chas. Lux, E. L. Woods, Jesse S. Potter, John H. Bolton.

December 7th, 1886. John H. Bolton, William Center, Chas. Lux, D. E. Martin, Jesse S. Potter, W. H. Talbot, J. C. Wilmerding.

December 6th, 1887. John H. Bolton, E. T. Allen, William Center, D. E. Martin, Jesse R. Porter, W. H. Talbot, J. C. Wilmerding.

December 4th, 1888. E. T. Allen, William Center, D. E. Martin, J. Leroy Nickel, Jesse S. Potter, W. H. Talbot, J. C. Wilmerding.

December 3rd, 1889. E. T. Allen, D. E. Martin, Jesse S. Potter, William Center, W. H. Talbot, J. Leroy Nickel, J. C. Wilmerding.

December 2nd, 1890. E. T. Allen, D. E. Martin, J. Leroy Nickel, Jesse S. Potter, Henry Miller, W. H. Talbot, J. C. Wilmerding.

December 1st, 1891. E. T. Allen, Jesse S. Potter, J. Leroy Nickel, D. E. Martin, Henry Miller, W. H. Talbot, J. C. Wilmerding.

December 6th, 1892. Same.
December 5th, 1893. E. T. Allen, Jesse S. Potter, J. Leroy Nickel, D. E. Martin, Thomas J. Lamb, W. H. Talbot, Henry Miller.
December 4th, 1894. E. T. Allen, Jesse S. Potter, J. Leroy Nickel, D. E. Martin, Henry Miller, W. H. Talbot, D. Henshaw Ward.
December 19th, 1895. Same.
December 1st, 1896. "
December 7th, 1897. "
December 6th, 1898. "
December 5th, 1899. E. T. Allen, T. B. Bishop, D. E. Martin, Henry Miller, J. Leroy Nickel, W. H. Talbot, D. H. Ward.

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December 18th, 1900. Same.
December 3rd, 1901. "
December 2nd, 1902. "
December 1st, 1903. E. T. Allen, Thomas B. Bishop, Louis F. Monteagle, Henry Miller, W. H. Talbot, J. Leroy Nickel, D. Henshaw Ward.
December 6th, 1904. Same.

June 12th, 1905, D. Henshaw Ward resigned. J. E. Bell was elected to fill vacancy.

* * * * * * *

Memorandum of Election of Trustees of the San Joaquin & Kings River Canal & Irrigation Company, Incorporated.

June 14th, 1905. E. T. Allen, J. E. Bell, Thomas B. Bishop, Henry Miller, Louis F. Monteagle, J. Leroy Nickel, W. H. Talbot.
December 5th, '05. Same.
June 28th, 1906. Azro N. Lewis, elected to fill vacancy caused by the death of Thomas B. Bishop.
December 4th, 1906. E. T. Allen, J. E. Bell, Azro N. Lewis, Henry Miller, J. Leroy Nickel, W. H. Talbot, Louis F. Monteagle.
December 3rd, 1907. E. T. Allen, Louis F. Monteagle, Henry Miller, J. Leroy Nickel, Azro N. Lewis, F. C. Talbot, W. H. Talbot.

Endorsed: No. 14554. U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Def'ts' Exhibit C. E. H. H. Master etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1763 DEF'TS' EXHIBIT D.

Maintenance Account of the San Joaquin & Kings River Canal & Irrigation Company, Incorporated, for Year Ending November 25th, 1907.

Expense General		$1,379.35
Expense—Automobile		463.48
Horses & Feed		3,469.06
Household Furniture		229.68
Instruments & Office Furn		87.85
Lumber & Piles		743.27
Subsistence		3,608.25
Telephone Instruments & Expense		591.84
Tools and Machinery		729.49
Vehicles and Harness		623.88
Canal Cleaning—Balance:		
'06, '07 Work, a/c	$6500	
'07, '08 Work	8977.26	
		15,477.26
Dredge Repairs & Maintenance		1,975.85
Expense,—S. F. Office		906.41
Rent,—S. F. Office		800.00
Salaries		7,494.40
Labor		10,007.35
Resurveying and Mapping		2,306.59
Tax		8,669.95
Legal Expense		6,045.38
Water Rates		3,554.57
Water Rates—New Proceedings		752.05
Damage Claims		100.00
Measuring Boxes		594.34
Repairs to Headworks		750.43
Parallel Canal Weir		10.00
Poso Headgate and Weir		1,537.57
Repairs to Los Banos Creek Weir		682.59
San Luis Outside Weir		300.88
		$73,891.77

Endorsed: No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Def'ts' Exhibit D. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1764 DEFENDANTS' EXHIBIT E.

This agreement, made this 4th day of December, 1905, by and between The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, a corporation, the party of the first part, Miller & Lux, Incorporated, a corporation, the party of the second part, and Las Animas and San Joaquin Land Company, Incorporated, a corporation, the party of the third part, witnesseth:

That whereas the parties of the second and third parts are each owners of lands bordering upon the San Joaquin River, and which touch the waters thereof and are riparian thereto, and are entitled to divert water from said river for the irrigation of their lands;

And whereas the said parties of the second and third parts each desire to divert water from said river at a point above the dam or weir of the party of the first part and within the pond or reservoir caused by said dam, and thereby to avail themselves of the benefit of the raising of the water of said river by said dam or weir; and it is equitable that said parties of the second and third part should compensate the party of the first part for the benefit so to be obtained by them respectively from said dam or weir;

And whereas the said parties of the second and third parts are not now provided with sufficient canal systems to carry the said water to all portions of their said lands, and they desire that, pending the completion of their said canal systems, the party of the first part should conduct and carry through its canals some portion of the water so diverted by said parties of the second and third parts or by one of them;

And whereas, by reason of the decision which has been announced by the Superior Court of Merced County in the action brought by J. J. Stevinson against the party of the first part, it appears that the quantity of water which the party of the first part will hereafter be allowed to divert from said river will be less than the capacity of its canals, and will be less than sufficient to enable the party of
1765 the first part to supply all the necessary demands of its present consumers;

And whereas the parties of the second and third parts are willing, in the event that the party of the first part will allow them the aforesaid use of its dam or weir or canals, to assist in relieving the party of the first part, by irrigating their riparian lands with water diverted by them as aforesaid,—thus permitting the party of the first part to use the water diverted by it for the irrigation of non-riparian lands;

And whereas the parties of the second and third parts have commenced the construction of a certain canal called the Helm Canal, and have partly completed the same, which canal, in part, encroaches upon the right of way of the party of the first part for and appurtenant to its main canal, and it may be necessary for said parties of the second and third parts to further encroach upon the said right of way of the party of the first part in the construction of said Helm Canal.

COPY BOUND

Now therefore it is hereby agreed by and between the parties hereto as follows:

1. That said party of the first part hereby agrees that the said parties of the second and third parts may maintain the said Helm Canal in the said location where it is at present constructed, without objection on account of the encroachment thereof upon the right of way of the party of the first part, and may, should the same be found necessary in its further construction, construct the same in whole or in part upon the right of way of the party of the first part, upon condition, however, that the said parties of the second and third parts shall assume and undertake to keep the bank of the main canal of the party of the first part nearest to said Helm Canal, wherever the said Helm Canal shall encroach upon said right of way, in good order and repair at their own expense, and shall indemnify and save harmless the party of the first part from all or any loss or damage that may result from said construction of said Helm Canal and
1766 from any breakage or impairment of said bank; and the said parties of the second and third parts do hereby undertake and agree to keep the said bank of the main canal of the party of the first part, wherever the said Helm Canal shall encroach upon said right of way, in good order and repair, at their own expense, and shall and will indemnify and save harmless the party of the first part from all or any loss or damage that may result from said construction of said Helm Canal, and from any breakage or impairment of said bank; provided, however, that nothing herein contained shall be so construed as to require the parties of the second and third parts, or either of them, to clean the said main canal of the party of the first part, or to remove any accretions or growth which may form on that slope of said bank which is nearest to the water of said main canal.

2. The said party of the first part hereby agrees that the parties of the second and third parts, or either of them, may at any time divert from the said San Joaquin River at any point above the dam or weir of the party of the first part, and within the flowage of said dam or weir, any water not belonging to the party of the first part and which it is not entitled to divert from said river, or which, at the time, it does not desire to divert from said river; on condition, however, that the said parties of the second and third parts do apy to the party of the first part, annually, their reasonable share of the annual expense of said dam or weir, to be ascertained as follows:

The total annual expense of said dam or weir is hereby fixed and agreed upon to be the sum of twenty-two hundred dollars ($2200.00); and said sum is to be apportioned between the parties hereto in proportion of the respective amounts of water severally diverted by them during the year ending on the 15th day of November then next preceding, and the said parties of the second and third parts hereby promise and agree to pay their said annual proportion, on demand as soon as the same shall have been so ascertained.

1767 3. The said party of the first part hereby agrees that, upon the request of the parties of the second and third parts, or either of them, at any time when the same can be done without in-

ND CLOSE IN CENTER

jury to its business or to its customers, it will carry and conduct through its canals, between such points as may be designated or requested by said parties of the second and third parts or either of them, any water diverted by the parties of the second and third parts or either of them;—the said parties of the second and third parts to pay for such service at the rate of one half of one cent for each twenty-four hours, for each second foot of water for each mile that the same is so carried. The necessary loss in transit by evaporation and seepage is hereby estimated and agreed upon as one per cent per mile; and the quantity which the party of the first part shall deliver to the parties of the second and third parts shall be the amount turned into its canal by said parties of the second and third parts, less one per cent for each mile that the same is so carried.

4. Inasmuch as the rates hereby agreed upon to be paid by the parties of the second and third parts to the party of the first part, and the percentage of loss by evaporation and seepage, are based upon estimates made upon the best information now obtainable, but may be found hereafter to require alteration, it is further agreed that either party hereto may require the said rates and percentage to be readjusted at the end of any year, upon giving six months prior notice of such requirement.

In witness whereof, the parties hereto have caused these presents to be subscribed by their respective presidents and secretaries, and their respective corporate seals to be hereunto affixed, all on
1768 the day and year first above written. Executed in triplicate.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED,
By HENRY MILLER, *President, and*
[CORPORATE SEAL.] C. Z. MERRITT, *Secretary.*

[Seal The San Joaquin & Kings River Canal & Irrigation Company, Incorporated.]

MILLER & LUX, INCORPORATED,
By HENRY MILLER, *President.*
[CORPORATE SEAL.] DAVID BROWN, *Secretary.*

[Seal Miller & Lux, Incorporated, Incorporated June 13, 1905.]

LAS ANIMAS & SAN JOAQUIN LAND COMPANY, INCORPORATED,
By HENRY MILLER, *President.*
[CORPORATE SEAL.] DAVID BROWN, *Secretary.*

[Seal Las Animas & San Joaquin Land Company, Incorporated, Incorporated June 13, 1905.]

(Original acknowledged by the 3 corporations before Geo. T. Knox, Not'y Pub. on 4th Jan'y 1903.)

1769 (Endorsed:) "Agreement between The San Joaquin and Kings River Canal and Irrigation Company, Incorporated,

Miller & Lux, Incorporated, and Las Animas and San Joaquin Land Company, Incorporated. Dated December 4, 1905. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin & K. R. C. & I. Co. vs. The County of Stanislaus et al. Def'ts' Exhibit E. E. H. H., Master." Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1770 DEF'TS' EXHIBIT F.

San Joaquin & Kings River Canal & Irrigation Co., Inc.

Legal Expense Account for Year Ending November 25, 1906.

Stevinson vs. Canal Co.	all	2688.87
Canal Co. v. Borland	"	9000.–
Water Rate Contest	"	1599.72
Canal Co. vs. Enterprise C. & L. Co.	½	1155.10
Canal Co. vs. Fresno F. & I. Co.	½	668.25
Calif. Past. & Agr. Co. v. James Canal	½	456.24
Calif. Past. & Agr. Co. vs. Miller & Lux and Canal Co.	½	398.52
Turner Estate vs. Borland	½	784.78
Turner Estate vs. Enterprise C. & L. Co.	½	672.56
Miller & Lux et al. vs. Stevinson	2/3	1552.92
Eastwood and North Fork Agreements	¾	1380.47
Miller & Lux a/c expenses accrued and unpaid at date of annual meeting, the items being included in fiscal year 1907		1813.62
General Services—record lost in fire	all	1309.15
" "	"	1396.95
		24877.15
Credits:		
Canal vs. Enterprise C. & L. Co.	1000.–	
" " Fresno F. & I. Co.	1500.–	2500.–
		22377.15

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Def'ts' Exhibit F. E. H. H. Master etc. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1771 DEFENDANTS' EXHIBIT G.

This Agreement, made this 22nd day of September, 1906, by and between the Borland Land Company, a corporation, the party of the first part, and The San Joaquin & Kings River Canal & Irrigation Company, Incorporated, a corporation, the party of the second part, Witnesseth:

Whereas the parties hereto have certain disputes and differences as to their respective rights in and to the waters of the San Joaquin River, Kings River, and Fresno Slough, and desire hereby to settle and adjust said differences for all times.

Now, therefore, in consideration of the premises and of the sum of nine thousand dollars ($9000.) in gold coin of the United States, this day paid by the party of the second part to the party of the first part, the receipt whereof is hereby acknowledged, it is hereby agreed be*w*teen the parties hereto, and it is admitted by the said party of the first part, that the said party of the second part has the righ at all times to divert from said San Joaquin River, said Kings River, and said Fresno Slough, or from either of them as much as twelve hundred (1200) cubic feet of water per second, and to carry the same to and upon lands, whether or not riparian to either of said streams, for the purpose of the irrigation thereof, and for domestic and other purposes.

In Witness Whereof the parties hereto have caused their respective Presidents and Secretaries to execute this agreement under the respective corporate seals of said parties, all on the day
1772 and year first above written.

BORLAND LAND COMPANY,
[SEAL.] By A. BORLAND, *President, and*
HUGH T. GOWER, *Secretary.*
THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED,
[SEAL.] By HENRY MILLER, *President, and*
C. Z. MERRITT, *Secretary.*

(Endorsed:) Agreement. Borland Land Company with The San Joaquin & Kings River Canal & Irrigation Co., Incorporated. Dated September 22nd, 1906. No. 14554. In U. S. Circuit Court. Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def't's Exhibit G. E. H. H., Master, etc. Filed May 14, 1910, Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clerk.

1773 DEF'TS' EXHIBIT H.

San Joaquin & Kings River Canal & Irrigation Co., Inc.

Legal Expense Account for Year Ending November 25, 1907.

Water Rate Contest		all	4659.57
Stevinson vs. Canal Co.		"	1900.85
Canal Co. vs. Borland		½	134.88
" " " Enterprice C. & L. Co.		½	1125.81
" " " Fresno F. & I. Co.		½	52.49
Calif. Past. & Agr. Co. vs. James Canal		½	307.64
" " " " M. & L. and Canal Co.)		½	791.20
" " " vs. Borland		½	175.–
Turner Estate vs. Borland		½	75.–
" " " Emterprise C. & L. Co.		½	313.10
M. & L. Inc. &c. vs. Stevinson		½	3772.
Sundry Items		all	267.93
			13575.47
Credits:			
Amount paid to Miller & Lux in fiscal year 1906 (as per statement,) on account of above item	1813.62		
Balance due Miller & Lux, included in above statement, unpaid	1409.85		3223.47
			10352.00

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus et al. Def't's Exhibit H. E. H. H. Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk. By J. A. Schaertzer, Deputy Clrk.

1774 DEF'TS' EXHIBIT I.

Memorandum of Agreement, made this 29th day of June, 1908, between The San Joaquin & Kings River Canal & Irrigation Company Incorporated, the party of the first part, and Miller & Lux Incorporated, the party of the second part, Witnesseth:

Whereas, the party of the second part has heretofore constructed a ditch leading from Siphon No. 4 of the canal of the party of the first part, in section eight (8) Township Nine (9) South, Range Nine (9) East, Mount Diablo Base and Meridian, and running thence easterly through the center of section nine, and thence Northerly along the Easterly line of sections nine (9) and four (4); and thence Easterly along the Northerly line of Section three (3) in

said Township and Range, for the purpose of draining waste water which accumulated on the land west of said canal, and for other purposes, and the party of the first part has contributed the sum of Three Hundred Ninety-seven Dollars and Eighty-three cents, being one-fourth of the cost of the construction thereof, for the purpose of relieving said land from damage caused by said waste water; and

Whereas, the party of the second part now desires to use said ditch as an irrigating ditch as well as for the purpose of drainage, as aforesaid.

Now, Therefore, in consideration of the premises, it is agreed that the party of the second part shall, and hereby does, relieve the party of the first part from any liability to hereafter maintain said ditch, and also relieves the party of the first part from any lia-
1775 bility to it for damages to said land by accumulation of said waste waters aforesaid, and the party of the first part will permit the party of the second part to use said ditch as a waste ditch and also as an irrigation ditch for its own lands at its pleasure; and in consideration of the premises the party of the first part waives and relinquishes any other interest it might have in said ditch.

In Witness Whereof the parties hereto have caused these presents to be executed by their respective Vice Presidents and Secretaries the day and year first above written.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED,
By J. LEROY NICKEL,
Vice President.
By C. Z. MERRITT, *Secretary.*

MILLER & LUX, INCORPORATED,
By HENRY MILLER, *President.*
[SEAL.] By DAVID BROWN, *Secretary.*

Endorsed: 10-17H. The San Joaquin and Kings River Canal and Irrigation Co. Incorporated, with Miller & Lux Incorporated. Agreement as to Ingomar Waste Ditch. Dated June 29, 1908. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit I. E. H. H. Master etc. Filed May 14, 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

Intake of the Main and Helm Canals for the Season of 1907-1908. *R. P. Mc.*

Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1907.	Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1907.
118859	6480	125339	July 1	111266	7495	118761	Aug. 1
111301	6480	117781	2	114120	7495	121615	2
111301	6480	117781	3	114120	7495	121615	3
111301	6480	117781	4	114120	7495	121615	4
123711	6480	130191	5	102726	7495	110221	5
121181	6480	127661	6	110763	7495	118258	6
123711		123711	7	112653	6480	119133	7
111301		111301	8	110763	6480	117243	8
118470		118470	9	105561	6480	112041	9
117509		117509	10	100584	7495	108079	10
120643		120643	11	100584	7495	108079	11
118470		118470	12	100584	7495	108079	12
116880		116880	13	105890	6480	112370	13
118470		118470	14	104931	6480	111411	14
118470		118470	15	107320	6480	113800	15
123551		123551	16	107320	6480	113800	16
122854		122854	17	107320	6480	113800	17
122854		122854	18	106634	4320	110954	18
123460		123460	19	107520	6480	114000	19
122854	7495	130349	20	112563	6480		20
122854	7495	130349	21	112000	7495		21
123460	7495	130955	22	111581	7495		22
117005	7495	124500	23	110736	7495		23

Water Turned Out

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Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1907.
97217	7495	104712	24
106237	7495	113732	25
110836	7495	118331	26
110836	7495	118331	27
113202	7495	120697	28
108502	7495	115997	29
111266	7495	118761	30
117652	7495	125147	31
1778			
103400	6480		Sept. 1
99397	6480		2
71327	5292		3
	5292		4
	5724		5
	5724		6
	6480		7
	6480		8
	5724		9
Average	4320		10
	9547		11
	9180		12
	10152		13
	10368		14
	6113		15
	7495		16
52245	7495	59740	17
	6480		18

Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1907.
111200	7495		24
111700	6480		25
112300	7797		26
112804	8100		27
104754	7495		28
104069	7646		29
101493	7495		30
107423	7495		31
39678			Oct. 4
34953			5
33101			6
33101			7
43587			8
42435			9
46458			10
46458			11
44726			12
43587			13
43587			14
43213			15
43441			16
Water Backed Up			17
			18
			19
			20
			21

PAGE BOUND V

	Average	Water Backed Up			Water Turned Out			
					6480			
					7495			
					7495			
					7495			
					8100			
					8100			
	54533					62633		
	54533							
	54533							
	54533							
	54533							
	52787							
	52787							
	49425							
	44580							
	42623							
	1779							

Main canal at 1st point.	Helm canal.	Total sec. st.	Date, 1907.
Water Backed Up			
			13
			14
			15
			16
			17
			18
35429			19
33322			20
31864			21
30071			22
.....			23
.....			24
.....			25
.....			26
* 6500			27
*19000			28
*25000			29
*26000			30
26300			Dec. 1
27131			2
27058			3
26856			4
26856			5
27037			6
27058			7
27720			8

Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1908.
27151			17
26980			18
27151			19
27151			20
26955			21
26955			22
26955			23
26828			24
27151			25
27747			26
27747			27
28383			28
28561			29
29783			30
26371			31

PAGE BOUND V

26371			Jan.	1	"			Feb.	1
26371				2	"				2
27747				3	"				3
28561				4	"				4
29240				5	"				5
29893				6	"				6
27233				7	"				7
27446				8	"				8
27446				9	"				9
27446				10	"				10
27307				11	17675	6113	23788		11
27307				12	"	6113			12
27307				13	"	6113			13
32284				14	"	6480			14
28115				15	"	6480			15
19615				16	"	6480			16
19615				17	"	7495			17
23914				18	"	7495			18
25587				19	"	7495			19
24182	3735	27917		20	47640	7495	55135		20
	3738			21		6847			21
	3738			22		6847			22
	5292			23		6847			23
	5292			24		6847			24
	5292			25		6847			25
	5292			26		10152			26
	5292			27	30434?	10152	40586		27
						9914			28

Water Backed Up

Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1908.	Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1908.
"			28	49393	9914	59307	29
"			29		9914		March 1
"			30		9914		2
"			31				
1781							
44400	9914	54314	March 3	98674	8650	107324	April 4
44400	9914	54314	4	98674	8650	107324	5
36434	9914	46348	5	109299	8650	117949	6
36434	9914	46348	6	83537	8650	92187	7
36434	9914	46348	7	78352	40400	118752	8
52704	8662	61366	8	79217	41927	121144	9
44400	8662	53062	9	77495	43300	120795	10
	8662		10	77059	44800	121859	11
	8662		11	74901	46300	121201	12
	8662	53062	12	75473	47800	123273	13
40500	8662	49162	13	76740	49234	125974	14
47000	8662	55662	14	76413	49600	126013	15
53500	8662	62162	15	76740	50000	126740	16
60000	8662	68662	16	76740	50400	127140	17
46994	8650	55644	17	76740	50800	127540	18
51917	8650	60567	18	78532	51200	129732	19
46994	8650	55644	19	76740	51600	128340	20
59610	8650	68260	20	71927	52132	124059	21
35330	8650	43980	21	76740	52200	128940	22
35330	8650	43980	22	79504	52300	131804	23
46994	8650	55644	23	76740	52400	129140	24

PAGE BOUND W

38700	9650	47350	24	77649	52500	130149	25
30400	8650	39050	25	72169	52700	124869	26
71900	8650	80550	26	77640	52900	130540	27
80200	8650	88850	27	70433	53084	123517	28
80200	8650	88850	28	70433	53084	123517	29
121400	8650	130050	29	70500	52132	122632	30
104833	8650	113483	30	70433	49452	119885	May 1
120221	8650	128871	31	72169	51186	123355	2
109299	8650	117949	April 1	70433	52136	122569	3
98674	8650	107324	2	70433	55350	125783	4
98674	8650	107324	3	69847	55350	125197	5
1782							
69962	54900	124862	May 6	77090	53533	130623	June 7
69962	54900	124862	7	76476	54561	131037	8
70076	55350	125426	8	76981	56347	133328	9
71306	54900	126206	9	76981	59161	136142	10
72171	54900	127071	10	76720	56347	133067	11
72298	**57150**	129448	11	76981	56347	133328	12
74932	56548	131480	12	76981	59161	136142	13
74284	55529	129813	13	77142	56347	133489	14
74932	58758	133690	14	76981	56347	133328	15
74932	57150	132082	15	75230	54816	130046	16
74932	57784	132716	16	75230	59161	134391	17
74932	57150	132082	17	75230	56347	131577	18
74932	57150	132082	18	75230	56347	131577	19
74932	55529	130461	19	75230	56347	131577	20
74932	56124	131056	20	75230	59161	134391	21
75582	54561	130143	21	75230	56347	131577	22
74862	54941	129803	22	75330	55026	130356	23

D VERTICAL IN BOOK

Main canal at 1st point.	Helm canal.	Total sec. ft.	Date, 1908.
75582	53741	129323	23
75582	53741	129323	24
75582	53741	129323	25
77314	53277	130591	26
76476	50736	127212	27
76476	53277	129753	28
76045	53277	129322	29
76476	53277	129753	30
75226	53277	128503	31
76476	53277	129753	June 1
75531	54561	130092	2
75631	53533	129164	3
75631	53277	128808	4
75631	54561	130192	5
76476	53277	129753	6
75700	55626	131326	24
76214	54781	130995	25
77100	55873	132973	26
76900	53533	130433	27
77700	52753	130453	28
78600	52753	131353	29
79300	53800	133100	30

PAGE BOUND VERTICAL IN BOOK

1783 The following summary tags are attached to this exhibit:

Helm, 07–8.

July	1,288.20	Jan'y	7,924.82
Aug.	2,190.63	Feb'y	8,572.87
Sept.	1,699.91	Mar.	16,942.22
Oct.	588.39	Apr.	24,425.08
Feb'y	2,007.93	May	22,880.33
Mar.	2,771.06	June	22,911.63
Apr.	12,033.43		103,656.95*
May	16,951.42		
June	16,633.08		
	56,164.05*		

Intake Main Canal, 1907.

July	36,162.18
Aug.	33,570.02
Sept.	18,186.19
Oct.	12,775.98
Nov.	9,740.73
Dec.	8,435.08
	118,870.18*
	103,656.95
	222,527.13
	56,164.05
	278,691.18

Endorsed: No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit K. E. H. H. (Kasten, etc.)

Expenses in Borland Litigation.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION CO. et al.
VS.
BORLAND.

1900.				
Jan.	17.	To G. L. Hoxie:		
		Dec. 10 @ 11.99, 1½ days' survey of Meanderings of Slough near Borland Plant—		
		Services of self	15.—	
		Expenses of trip—2 men	7.95	
		Services, W. L. Hills, Chairman	3.75	
		Dec. 12, '99. Preparing map showing slough as surveyed	2.50	
				29.20
April	16.	To Houghton & Houghton:		
		Clerk's fee	6.—	
		Sheriff's fee	1.25	
				7.25
1901.				
Jan'y	9.	To F. H. Short:		
		Dec. 3/00. Retainer in injunction suit to prevent pumping		100.—
Apr.	2.	To Houghton & Houghton:		
		Mch. 11. Expenses R. E. Houghton to Fresno and return		17.30
Dec.	31.	To F. P. McCray:		
		Dec. 28. Fare, S. F. to Fresno 5.90, cars 5¢	5.95	
		Sleeper 1.50, Porter 25¢	1.75	
		Hotel, Fresno	1.—	
		Fare Fresno to S. F. & Cars	5.95	

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		Services, 2 days	20.—	
				34.65
1902.				
Jan'y	2.	To J. W. Schmitz, Expenses, witness		5.10
Jan.	10.	To E. S. Davis, Expenses "		6.35
Jan.	17.	To " " "		6.85
Jan.	20.	To J. W. Schmitz, Expenses, witness		10.20
Feb.	8.	To Houghton & Houghton:		
		1901.		
		Dec. 27. Certified copy Swamp land list #79 and Patent #55, of Visalia Land District	7.00	
		1902.		
		Jan'y 2. Certified copy plat, Tp. 14, 15 E.	5.00	
		Jan. 10. Expenses R. E. Houghton to Fresno Jan. 7 & 8 for trial	13.05	
		Jan. 14. Certified copies Tp. Plats for Tp. 12. 14 and 13 15 E.	10.—	
		Jan. 24. Keuffel & Esser Co. for blue prints	.35	
		Jan. 29. Fresno Abst. Co. search James & Borland Assessment list	15.00	
		Jan. 31. Expenses R. E. Houghton to Fresno Jan. 14-24 for trial	79.95	
		Jan. 31. Punnett Bros. for 33 blue prints	4.95	
		Jan. 31. N. H. Peterson, transcribing testimony	120.	
				255.30
Feb.	28.	To F. P. McCray:		
		Jan. 14. Fare Mendota to Fresno	1.05	
		Jan. 14. Expressage 40¢, Tracing Linen 40¢	.80	
		Jan. 24. Hughes Hotel, Fresno 25.— phones 1.30	26.30	
		Jan. 24. Fare Fresno to S. F. & cars	5.95	
		Jan. 24. Services, 10 days	100.—	
				134.10
		(1) Carried Forward		

1785				
		Brought Forward		
M'ch	14.	To D. A. Leonard, Witness, expenses		10.50
June	28.	To I. Teilman, Civil Eng. 1½ days in court		15.—
June	30.	To Punnett Bros. Blue Prints		1.01
Dec.	6.	To Houghton & Houghton:—		
		1902.		
		Jan. 6. Phone, S. F. to Fresno	.25	
		Jan. 8. Phone, Fresno to S. F. 1.15, 50-75	2.40	
		Jan. 27. " "	1.60	
		M'ch 12. Expressage on briefs to Short	.25	
		June 30. Phone to Short	.75	
		Aug. 1. Expressage Testimony to Fresno	.75	
		Aug. 5. Expressage " from "	.65	
		Aug. 5. Exp. R. E. Houghton to Fresno and return, Close trial	18.30	
		Aug. 15. J. W. Gearhart, Reporter ½ day	5.—	
		Aug. 15. " Transcribing proceedings	5.40	
		Aug. 15. Expressage on papers	.60	
		Aug. 22. Punnett Bros. for blue print of Exhibits	2.14	
		Sept. 29. Printing Plaintiff's brief Superior Court, Fresno	100.50	
		Oct. 1. Expressage on briefs to Short, Fresno	.25	
				138.84
1903.				
Jan'y	7.	To F. H. Short:		
		Services preparing reply brief, &c	250.	
		1902.		
		Feb. 1. Sheriff's Fees	.50	
		Feb. 3. Telephone & Telegrams	2.35	
		M'ch 19. Express ch'g's on brief	.50	
		July 7. Clerk's fees	2.	
		July 24. 1/3 Exp. to S. F.	6.67	
				262.02

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May	6th.	To Houghton & Houghton:		
		April 29. Expressage Transcript of testimony & briefs to Fresno	.75	
		Apr. 30. Expressage exhibits to Fresno	.50	
		Apr. 30. H. S. Crocker Co. printing 50 copies plaintiff's reply brief	54.90	
				56.15
Dec.	2d.	To Houghton & Houghton:—		
		Nov. 5. Expenses R. E. Houghton to Fresno Nov. 4-5 in argument of cases	15.80	
1904.				
Jan.	9.	To F. H. Short:		
		April 7/03. Services writing reply brief Superior Court, 6 days' time	300.00	
		To F. H. Short.		
		1903.		
		M'ch 24. Express charges	1.40	
		Apl. 7. Telegrams	1.40	
		Outside typewriting	14.50	
		Express charges	1.40	
		Aug. 29. Telegram	1.—	
		Oct. 8. Telegram	.40	
		Nov. 20. Transcript of testimony	4.50	
				24.60
Jan.	30.	To Houghton & Houghton:		
		Services including trial of case and its argument in Court 13 days and preparation of 2 briefs, in full to December 31, 1903		1,300.00
Nov.	17.	To Mastick, Van Fleet & Mastick:		
		Oct. 25. Pro-rata expenses W. B. Treadwell to Merced		2.47
1905.				
Feb.	20.	To Houghton & Houghton:		
		Services from Jan. 1, 1904, to Feb. 1, 1905		500.—

Feb.	28.	To F. H. Short:		
		Services for year Jan. 1, 1905		500.—
		Carried Forward		
1786		Page 3.		
		Brought Forward		
Oct.	12.	To Houghton & Houghton:		
		June 28. J. M. Bramlett of Assessor's office, Fresno for search as to assessments of J. G. James & Borland Estate...	10.—	
		" County Clerk Fresno, Fees & Filing notice of intention to move for new triai.....	2.—	
		Sept. 13. H. S. Crocker, binding 4 volumes bill of exceptions on new trial & appeal.....	1.—	
				13.—
1906.				
Jan.	18.	To F. H. Short:		
		Dec. 22 04. Services during year, consultation with Mr. Houghton in relation to statements, &c.....		50.—
		June 8. Clerk's Fee, Notice of Intention		2.—
April	4th.	To Houghton & Houghton:		
		Jan. 13. Express charges, Bill & amendments	.50	
		M'ch 12. ½ Expenses R. E. Houghton to Fresno M'ch 9/10 on settlement bill of exceptions	4.70	
				5.20
1907.				
Feb'y	28.	To F. H. Short:		
		Services preparation for and representation of bill of exceptions		100.00

		To F. H. Short:		
		July 11/06. 1/3 Expenses to S. F.	13.34	
		Aug. 6/06. Express charges	.75	
				14.09
Jan'y	31.	To N. C. Coldwell, services		50.—
		" Houghton & Houghton:—		
		1907.		
		Dec. 5. A. C. Hoffman, blue printing exhibits for bill of exceptions	3.06	
		Dec. 6 @ S. R. E. Houghton, expenses to Fresno, to settle bill of exceptions	21.50	
		Dec. 13. Scott McKay, Fresno, for three blue prints	1.50	
		Dec. 13. Vida Scott, typewriting 2 copies patent & deeds for Recorder's office	5.—	
		Dec. 11. Binding engrossed bill of exceptions	4.50	
		Dec. 20. H. S. Crocker Co. extra binding on original transcripts of testimony for the court	5.—	
		Dec. 28. Express charges on bill of exceptions from County Clerk.	.50	
		Dec. 28. Express charges on same to County Clerk	.50	
				41.56
		To F. H. Short:		
		Sept. 27/07. Service and advice in connection with Borland Litigation		50.—
		To F. H. Short:—		
		Jan'y 23/07. Express charges on papers		.40
		Carried Forward		

	Brought Forward			
Feb'y 3, 1908.	Houghton & Houghton:—			
	Services in both suits from Feb'y 1/05 to Jan'y 1/08		1,000.—	
M'ch 31.	To Houghton & Houghton:—			
	1907.			
	Dec. 3. Phone to County Clerk, Fresno	.50		
	" 2. Express charges on papers from Coldwell	.25		
	14. Affidavit R. E. Houghton for order of Supreme Court extending time to file transcript on appeal	.50		
	Clerk of Supreme Court fee filing order	.50		
			1.75	
				5,060.69
	Cr.			
Aug. 31/06.	By Cal. P. & A. Co. paid pro-rata of expense			274.95
				$4,785.74
	Canal Co. one-half			$2,392.87

1788 Turner Estate vs. Borland.

1905.			
M'ch 7.	To A. Barion, Surveyor, on a/c services	50.—	
M'ch 9.	To Chas. B. Gleaves, for 170 miles field notes	35.—	
M'ch 10.	To W. Minto, on a/c expenses	50.—	
M'ch 10.	To A. Barion, on a/c expenses	20.—	
M'ch 21.	To W. F. & Co., Expressage on papers to Mendota	.25	
Apr. 4.	To Phones to Fresno, Treadwell to Coldwell	1.15	

Apr.	27. To W. Minto:			
	Services as surveyor on Fresno Slough, &c., M'ch 10, April 18, 30 days at $10		300.—	
	R. R. fares to Firebaugh & return		9.80	
			309.80	
	Less paid on a/c M'ch 10th		.50	529.80
Apr.	30. To Firebaugh Office:			
	Supplies to Surveyors' Camp—			
	March meat		2 76	
	M'ch Provisions, etc.		96.30	
	M'ch 31. 2 Cords Wood		10.—	
	M'ch 31, 4 Horse Team & Man, 2 days		11.—	
	April, Meat		4.14	
	April, Provisions		7.80	
	Apr. 17, 4 Horse team & man, 2 days		11.—	
	Apr. 21, Surveyors' helpers:			
	C. Buckman, March		5.—	
	F. Adams		28.75	
	Jos. Stevens		24.15	
	A. W. Van Loan		31.—	
	C. Foster		21.—	
	M. C. McIntyre		21.—	
	W. Kissell		21.—	
	T. Perry		4.65	
	C. E. Strivens			28.50
				328.05
May	12. To Mastick, Van Fleet & Mastick:			
	April 4/6. W. B. Treadwell's exp. to Fresno Slough		16.50	
	April 17/18. W. B. Treadwell's exp. to Merced		10.45	
				26.95

May	20. To W. Minto:			
	May 16. R. R. fare to Merced & return		8.50	
	May 17. Hotel bill, Merced		1.50	
	May 17. Time May 16 & 17, 2 days		20.—	
				30.—
July	18. To A. Barion:			
	M'ch 9 and 10. Work in making Plate 2 days at $5		10.—	
	M'ch 11 to Apr. 18. Work 30 days at $10		300.—	
	Apr. 20 to 27. Work 3 days at $10		30.—	
	Expense accounts 27.60, 56.85		84.45	
				424.45
	Less payments on account:			
	M'ch 7. Advanced by S. F. Office	$50		
	Mar. 10. " " " "	20		
			70.—	
				354.45
Oct.	6. To Mastick, Van Fleet & Mastick—			
	May 15. Telegram to Judge Law		.50	
	May 16/17. Expenses of W. B. Treadwell to Merced		15.65	
	May 18. Telegram to County Clerk, Merced		.25	
	May 18. Telegram from " "		.25	
	May 18. Expressage		.70	
	May 31. A. Barion, service 2 days		20.—	
	" " expenses		9.25	
				46.60
	Carried Forward			

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	Brought Forward			
Oct.	31. Mastick, Van Fleet & Mastick:			
	Preparing complaint	250.—		
	½ day's attendance in court on demurrer	50.—		
	3 day time on trip to Fresno Slough.....	150.—		
			450.—	
1906.				
June	5. To J. W. Knox:			
	May 8. Copying 57 pages, 3 copies at 35¢	19.95		
	May 17. Copying Minutes 2 pages, 3 copies at 35¢.....	.70		
			20.65	
Sept.	12. To California P. & A. Co.:—			
	Nov. 21/05. Page, McCutcheon & Knight bill part clerk's fees.....		17.62	
1907.				
Feb'y	28. To F. H. Short:			
	Service on trip to Merced.....	50.—		
	" and advice as to settlement of all Borland litigation	100.—		
			150.—	
			1,840.52	
	Cr.			
1906.				
Aug.	31. By Cal. P. & A. Co. paid pro-rata of expenses		120.95	
			$1,719.57	
	Canal Co., one-half			$859.79

VERTICAL IN BOOK

California Pastoral & Agricultural Co. v. Agnes Borland.

1907.				
Jan.	31.	To Page, McCutcheon & Knight:—		
		Retainer & a/c services	350.—	
		Canal Co., one-half		$175.—

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit M. E. H. H., Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, by J. A. Schaertzer, Deputy Clerk.

1790 [Endorsed:] No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs The County of Stanislaus, et al. Def'ts' Exhibit N. E. H. H., Examiner. Filed May 14 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1791 In the Matter of Fixing the Maximum Rates Which The San Joaquin & Kings River Canal and Irrigation Company, a Corporation, Shall Charge for Water for Irrigating Purposes in Stanislaus County.

Regularly Heard before the Board of Supervisors of Stanislaus County, California, on May 14" and June 25", 1907.

Attorneys for Petitioner: W. B. Treadwell, Esq. and Frank H. Short, Esq.
Attorney for Stanislaus County: L. J. Maddux, Dist. Att'y.

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W. J. Stockton	25				
J. N. Stuhr	26				
J. Q. Drummond	26				
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N. E. LEEK,
Official Reporter, Stanislaus County.

1792 In the Matter of Fixing the Maximum Rates which the San Joaquin & Kings River Canal and Irrigation Company, a Corporation, shall Charge for Water for Irrigating Purposes in Stanislaus County.

The above entitled matter came on regularly to be heard before the Board of Supervisors of Stanislaus County, State of California, on the 14" day of May, A. D. 1907:

Present:

A. E. Clarey, Chairman of the Board of Supervisors, and Supervisors J. W. Davison, M. A. Lewis, John Dunn and J. J. McMahon.

Attorneys for Petitioner, the San Joaquin and Kings River Canal and Irrigation Company: W. B. Treadwell, Esq., and Frank Short, Esq.

Attorney for Stanislaus County: L. J. Maddux, Dist. Att'y.

Mr. CLAREY (Chairman): I believe the first matter before the Board for consideration this morning is the application for fixing the water rates of the San Joaquin and Kings River Canal and Irrigation Company. We are ready to hear any of the representatives.

Mr. TREADWELL: Gentlemen, this time was appointed for the hearing of the petition of the San Joaquin and Kings River Canal and Irrigation Company for fixing its rates for irrigation in this county. The statute provides that the clerk shall fix the day for the hearing but leaves it to the discretion of the supervisors whether they shall take it up at that time or not. Publication has
1793 been made and the affidavit is on file. If you are ready to take it up, gentlemen, the Company is ready to proceed.

CHAIRMAN: You may proceed.

Mr. MADDUX: There is an understanding between us that the Company will put in its testimony to-day and then the people will have a chance to continue the matter.

Mr. TREADWELL: Yes; the district attorney of course in this matter represents not only the county, but think in a certain way particular persons or water users in this case, consequently I had a talk with the district attorney and had an understanding with him, of course if it is satisfactory to the Board, that we will produce certain of the evidence now and as to some other matters — merely formal matters that are within the knowledge of almost everybody—we may simply read the testimony taken on those matters at Merced. I have the transcript of the shorthand reporter of the testimony taken at Merced on a similar petition.

Mr. MADDUX: Yes.

Mr. TREADWELL: The statute requires the Board to ascertain what is the value—present value of the canals and other works of the company, so far that is as they are used and useful for supplying water to this county, and you are required to estimate that value and also to estimate what the reasonable annual expense—that is maintenance, repairs, superintendence, etc.,—will be. You are probably all aware gentlemen that you had a hearing in this matter in 1896 and fixed rates for this company that have been in force ever since, and I only want to say with regard to those rates that this Board at that time fixed different rates for different kinds of irrigation; for example, you fixed a certain rate for alfalfa, which constituted probably 99/100 of all the irrigation—the alfalfa and grain at least, and you fixed different rates for other kinds of irrigation. Since that time, on a close examination of the
1794 statute, it is my opinion and I think probably your district attorney will so advise you also on reflection, that the

statute does not justify that but requires you to fix a certain rate for irrigation, uniform, no matter what kind of irrigation it is. If one man wants to irrigate an orchard and another man wants to irrigate a field of alfalfa, under the statute as I take it, they have to pay the same price. That is all I care to say as to that matter. We suggest that the rate fixed, whatever it is, should be uniform.

Mr. Goodwin will you come forward and be sworn:

Mr. MADDUX: Judge, did you get your notice?

Mr. TREADWELL: Yes; the notice was given and published, the affidavit is on file and the Clerk has it. The statute requires it to be published for four weeks; it was published six times in a weekly paper.

R. H. GOODWIN, called and sworn as a witness on behalf of Petitioner, testified:

Mr. TREADWELL:

Q. Your name is R. H. Goodwin?
A. Yes sir.
Q. Where do you reside Mr. Goodwin?
A. Oakland.
Q. What is your business?
A. Engineer, civil and mining.
Q. How long have you been engaged in that profession?
A. Almost 33 years.
Q. In the exercise of your profession have you had anything particularly to do with hydraulic works, canals and irrigation works and similar works?
A. Yes sir, a great deal.
Q. Have you done any such work in the San Joaquin Valley?
A. I have.
1795 Q. What work of construction or planning of that kind have you been engaged in in this valley?
A. Both in Turlock and Modesto Irrigation Districts.
Q. What did you do in those districts?
A. Designed and built some portions of it—majority of it.
Q. Are you—Have you had any experience in examining the works built by others and estimating their cost?
A. Yes sir.

Mr. MADDUX: Judge, I will admit the competency of the witness, if that is what you are after.

Mr. TREADWELL: Well, that is right Mr. Maddux, of course I knew you would, but I thought these gentlemen ought to have at least an outline of it.

Q. Are you acquainted with the canals and other works of the San Joaquin and Kings River Canal and Irrigation Company.
A. I am.
Q. When did you first become acquainted with those works?
A. I think it was in 1896.
Q. Well in 1896 what did you have to do with it?

A. I was employed by Stanislaus County to examine the works of the Company.

Q. That is you were employed by the Supervisors—this Board——

A. Yes sir.

Q. For what purpose?

A. To examine the works and to put an estimate of cost on it and valuation.

Q. Did you do so?

A. I did.

Q. Did you make a thorough examination at that time?

A. A very thorough examination.

Q. Were you at that time familiar with the cost of labor and materials for doing such work?

A. I was.

Q. Have you ever made any examination of those canals since?

A. I did.

Q. When was the next one?

1796 A. I forget the years, three or four years ago for the Company itself.

Q. That was in 1904; at that time you were employed by the Canal Company.

A. By the Canal Company, yes sir.

Q. Did you make a thorough examination at that time?

A. I did.

Q. And estimate?

A. I did.

Q. Have you done any since?

A. Yes.

Q. When was that?

A. Last fall.

Q. At whose request?

A. The Canal Company's request.

Q. And did you make on this last occasion a thorough examination?

A. I did.

Q. Are you familiar with the present prices for labor and materials in this Valley?

A. I am.

Q. Such labor and materials as are required in this work?

A. I am.

Q. I will ask you, did you make any written report of this work?

A. I did.

Q. I hand you now four volumes and ask you whether those are your reports? (Showing.)

A. They are.

Mr. TREADWELL: These reports which I have shown the witness consist of four documents marked respectively "A", "B", "C", and "D", "A" being headed as "Estimated Cost of the Headworks and Sundry items of the San Joaquin and Kings River Canal and Irrigation Company in Fresno County" "B" being the Estimated Cost of Main Canal and Works in Fresno County; "C" being "Estimated

cost of the works of the Company in Merced County" and "D" being "Estimated cost of the works of the Company in Stanislaus County."

Q. Are those statements correct, to the best of your knowledge and ability, Mr. Goodwin?

A. They are.

Q. Do they contain all the items of cost and value in the works of the Company?

1797 A. All of those that are used and useful excepting the right of way;—the value of the land upon which the canals are built.

Q. As to those you haven't any estimate of value.

A. No.

Q. I suppose you are not familiar with the prices of real estate here?

A. No.

Q. It contains everything else, however, and correct.

A. Yes sir.

Mr. TREADWELL: These statements, gentlemen, you will find to be in detail showing each structure—that is measurements and all prices fixed and the total cost of each item and the total cost added up.

Q. In your opinion Mr. Goodwin could these works shown in these reports be now constructed at any less price than the price as you have stated it here?

A. No sir.

Q. Now as to the value of the works, do you or do you not consider these works to be worth that much now?

A. I do.

Q. Are those works in good condition and able to do their work?

A. Yes sir.

Q. And therefore, you say they are worth, in your opinion, what it would cost now to construct them.

A. Yes sir.

Mr. TREADWELL: We offer those papers in evidence and ask they be marked exhibits "A", "B", "C", and "D".

That is all Mr. Goodwin.

Mr. MADDUX: Now it is understood that we may take up the cross-examination of the witness after an examination of the reports.

Mr. TREADWELL: Yes. I will say gentlemen, that the District Attorney suggested to me that in order that this Board might familiarize itself with these things before acting, that it might be desirable after commencing this hearing now to postpone it

1798 for a month; and I will say gentlemen, I think that is a very proper thing to do. You do not want to act hastily in this, and you may want to make some examination of these canals yourselves or you may be satisfied to take Mr. Goodwin for it, but in either case, whatever you do, you want to know what you are doing, and we are entirely willing and pleased indeed that you

should postpone this without action now for another month in order that you may do what you think best.

Mr. MADDUX: Yes.

Mr. TREADWELL: We would only ask this, that the matter be determined finally sometime at least during the month of June, because the rates take effect on the first day of July; otherwise we will be pleased to aid you in anyway possible.

Mr. MADDUX: Yes; well, we will defer the cross-examination of this witness until that time, until examination.

Mr. TREADWELL: Yes, I thought you would defer until you had examined those, then you will know what you want to ask.

Mr. MADDUX: Yes.

Mr. TREADWELL: Well, that is all then for the present, Mr. Goodwin.

1799 C. A. WARREN, called and sworn as a witness on behalf of Petitioner, testified:

Mr. TREADWELL:

Q. Where do you reside Mr. Warren?

A. San Francisco.

Q. What is your business?

A. Contractor.

Q. Do you do general contracting?

A. Yes.

Q. What particular class of contracting are you mostly engaged in; what particular class of work?

A. Grading.

Q. Grading and earthwork.

A. Grading and earthwork.

Q. How long have you been engaged in that business in this country?

A. Since 1874.

Q. Are you familiar with the present prices of labor and materials—lumber and other materials used in the construction of canals, as they are now?

A. Yes sir.

Q. And the general condition of the market in the San Joaquin Valley?

A. Yes sir.

Q. Are you acquainted with the canals of the San Joaquin and Kings River Canal and Irrigation Company?

A. Yes sir.

Q. Did you ever make any special detailed examination of those canals?

A. Yes sir.

Q. When?

A. Some five or six years ago.

Q. On that occasion did you go clear through the works and examine them all?

A. Everything, yes sir.

Q. And made such an examination as to enable you to make an accurate estimate of the cost?

A. Yes sir.

Mr. TREADWELL: If you will allow me one moment, Mr. Maddux; will you pass those papers back.

Q. There has been presented to the Board here a report of the examination and estimate of the cost of this canal, that is what it would cost to construct them at present, by Mr. Goodwin, and I would like to see how his prices correspond with what you know:

1800 For example, Mr. Goodwin here, in that kind of lumber which is used in the dam, headgates, bridges and gates throughout this canal, has taken his prices at $27.00 per thousand; you are familiar with the kinds of lumber. He has put that price on both red wood and on Oregon pine, with the exception of certain special articles—weir boards, piles and battens, which is estimated at a different price. Now he figures lumber in general at $27.00 per thousand, how does that compare with what you know to be the prices at the present time for that character of lumber?

A. That is the price of lumber at present.

Q. Can lumber be obtained any cheaper than that at San Francisco?

A. Not at the present time.

Q. That of course is the price without freight to here.

A. Yes sir.

Q. That is the San Francisco price.

A. The San Francisco price.

Q. Now such lumber as is used for weir boards he has put at $50.00 per thousand; how is that price?

A. That is as cheap as you can get it.

Q. And battens at $30.00 per thousand.

A. Yes sir.

Q. Now carpenter-work, such carpenter-work as was used on the rough lumber used in building this dam and the gates and bridges, in this he has put at—according to the kind of work—from $7.00 to $10.00 per thousand. How does that correspond with the actual prices?

A. Well, that is away below anything that any contractor would bid.

Q. You would not be willing to take a contract at those prices would you?

A. No.

Q. Could it be done at those prices now at all.

A. No, it could not be done at those prices at all.

Q. Now earthwork, the kind of work done in the construction of the principal canals of this Company, the usual excavation in building large canals, he has estimated at ten cents per cubic

1801 yard; could that work be done by anyone in the San Joaquin Valley for as low a price as that?

A. No; I don't know of any way that it could be done for that.

Q. And excavation for canal by constructing works by excavating

with a dredger he has put at five cents per cubic yard; could it be done for such a low price as that?

A. I don't think so.

Mr. TREADWELL: That is all.

Cross-examination.

Mr. MADDUX:

Q. Did you ever do any work over in that section of country where this canal is?

A. I never did any work exactly in that section. I have been working on the West Side.

Q. What part of the West Side?

A. At Coalinga.

Q. At Coalinga.

A. Yes sir.

Q. What kind of work was it?

A. Ditching, just the same as——

Q. To what extent?

A. It wasn't as extensive—it wasn't of as great an extent as this.

Q. What is the width and length of the ditch?

A. Our main canal there was about thirty feet on the bottom—twenty-five feet on the bottom.

Q. Yes; well that was in the mountains, wasn't it?

A. No sir, that is not in the mountains.

Q. From what source did you take the water?

A. Out of a creek there and some wells and springs.

Q. And what was the length of the canal?

A. The length wasn't over four or five miles; it was short.

Q. And that is all of your experience on the West Side?

A. That is the most of my experience on the West Side.

Q. Have you made a minute examination of this canal?

1802 A. Did I make a minute examination.

Q. Yes.

A. Yes sir.

Q. Now these values that you put on this lumber and material there is the valuation now, isn't it, at the present time?

A. Certainly.

Q. Well it is of a very exaggerated value now, isn't it?

A. I don't know; if you go to buy it it is not exaggerated.

Q. Well, I say—I don't mean that you have exaggerated it, but I say the price of lumber is exaggerated on account of——

A. The price of lumber is high.

Q. Yes, very high.

A. Yes sir.

Q. Much higher than it was two years ago.

A. Higher than it was eighteen months ago, yes sir.

Q. Yes; now did you put any value on this lumber as it is in place there, being used for a number of years, how much it is worth now? Make any valuation on that at all?

A. No.

Q. The only valuation you have made is of new lumber, what new lumber would cost to re-construct.

A. Yes sir.

Q. You have no idea what the value of this lumber was in 1906-1896, have you?

A. Do I know the value of it at that time?

Q. Yes, 1896.

A. Certainly I do.

Q. How much higher now is the value than in 1896?

A. The price of bare lumber probably ten or twelve dollars a thousand.

Q. About what per cent would you figure to allow for the increase in price since 1896?

A. The difference between the price of that lumber in 1896 and now is a big difference; there has been a big advance.

Q. Well, about fifty per cent?

Mr. TREADWELL: I think we can agree the market price
1803 all 'round must be over fifty per cent higher now than it was in 1896.

Mr. MADDUX: Yes.

Q. Now do you know when this canal was constructed, these works were constructed, especially in Stanislaus County?—I think it was in '72?

Mr. TREADWELL: I forget the year; there have been two periods of construction in Stanislaus County. One in 1873 or '4—commenced in 1873, and one in 1875 or between that and 1880.

Q. You have no idea of the value of construction at those periods have you?

A. No, that is before my time.

Q. That was before your time.

A. Yes.

Q. Now how does the value of the lumber at the present time, that is, being in its used state—having been used for a number of years in the canal—compare with the value of new material? Take the material as it is there now, having been in use for a number of years, how does it compare with new material that would be required to reconstruct?

A. Well I could not make an accurate estimate on that.

Q. You can't put any value?

A. I haven't given it any thought.

Q. You cannot put any value—Have you places any value on the material as it now stands, as it is now placed in the canal?

A. The only way I could place a value on the material as it now stands; I considered what it would cost new to put it there.

Q. I know; but you don't figure the old lumber as valuable as new?

A. Well, no.

Mr. SHORT: I suppose you will figure what we ought to be allowed each year for depreciation!

Mr. MADDUX: Why, certainly; you are proving the value of your works.

1804 Mr. SHORT: Yes, I know.

Mr. MADDUX: But you want to prove them as—according to the prices of lumber now which is fifty per cent higher than when constructed.

Mr. SHORT: I was just looking at the other horn of that dilemma you spoke about.

Q. Yes; you have no idea what the value of the material of that canal is now as it stands?

A. No, I have no idea.

Q. You did not place any value on that.

A. I did not place any value on it; I didn't look at it for that purpose.

Q. You didn't look at it for that purpose and you made no estimate of it.

A. No.

Q. Now did you make any estimate of the excavation, the price of excavating all that material that is in that canal?

A. Yes.

Q. What did you find that to be?

A. Well, to do it now?

A. Yes.

A. I would not take a contract to do it to-day for fifteen cents per yard; and you can't find any responsible contractor in the State of California that would.

Q. Yes; well do you know what the value of that was in 1896?

A. Well I know that they were doing work around here in 1896 for eight and ten cents a yard.

Q. Yes.

A. And I know I bid on lots of work here and always got left.

Q. Yes; at that time.

A. At that time.

Mr. MADDUX: Yes; I believe that is all.

Mr. TREADWELL: That is all Mr. Warren.

Mr. TREADWELL: Now gentlemen, with your consent, and the District Attorney has already informed me that he will con-

1805 sent, I would like to read from the transcript of the testimony taken in Merced the testimony of some other witnesses who testified at that time. Is there any objection?

Mr. MADDUX: Well this goes to the value of the land taken?

Mr. TREADWELL: Yes, it is almost entirely to the value of the land in these three counties—the land occupied by the canals and their rights-of-way, and some purely formal matters of that kind.

Mr. MADDUX: Well, just consider that read, Judge.

Mr. TREADWELL: I will say, in order that the reporter may note—I will leave this with him—it is the testimony of J. Q. Drummond, F. B. Marks, W. J. Stockton, J. N. Stuhr, all of whom are farmers in either Merced, Fresno or Stanislaus County, and who testified solely as to the present values of the land occupied by the canal; and the testimony of Mr. Drummond also as to the con-

dition of the labor market in this Valley at the pre-sent time, his testimony being in brief that it is impossible now to obtain sufficient labor at any price to do the necessary farming work; for example, getting in the hay; and in his opinion there could not be sufficient labor obtained at present in this Valley by any means he knows of, and he is a very experienced man, to build this canal at present at all. There is also the testimony of Mr. C. Z. Merritt, the secretary of the company, as to certain formal matters principally which are embodied in two statements which are marked in here exhibits E and F. One of those is a statement from the books of the Company showing the number of acres of land irrigated in each year by showing how much was irrigated from each different canal and how much in each county. With regard to that we will say, gentlemen, because you are perhaps not familiar with that, that this Company has three systems of canals, one of these systems—the main canal—commences in Fresno County and runs into Stanislaus
County and furnishes water here; but there are two other
1805 canals, one called the Dos Palos system and the other one the outside canal, both of which terminate in Merced County and do not irrigate any land in this county and therefore of course the value of those systems is not to be considered in fixing rates in this county. Therefore this statement of irrigation shows just how much land was irrigated in each year from the main canal in Fresno county, how much from the main canal in Merced county and how much from the main canal in Stanislaus county; then similarly according to counties, the amount irrigated by the Dos Palos and the Outside systems.

I offer this statement, and also a statement showing the actual cost of—the annual cost of maintenance expenses.

Mr. MADDUX: How is this made up? Who makes these statements?

Mr. TREADWELL: Mr. Merritt who is the secretary of the Company, from the books of the Company. The other statement I have here is the annual expenses of the Company in maintaining these works, in furnishing water and in keeping them in repair. Now this statement shows each item in each year, and I will say there are two columns of figures here, one in violet ink and one in red ink; the one in violet shows the various items as they appear on the books, and footed up, which the law requires you to estimate. And in making that estimate there is one item in a number of these years which I am of the opinion and I think the District Attorney will agree with me, is not proper to be considered in fixing the rates. The result of the fixing of rates by this Board in 1896 wasn't satisfactory to the Company and very considerable litigation, as you painfully know and as we painfully know has continued through many years since and has cost a great deal of money. I do not think it is right or proper that that should be charged in any
way against the water consumers. I think we ought to pay
1807 our own litigation costs, therefore we have made another column here in red ink showing the proper cost of main-

tenance omitting that item, which is a very large one; and this statement we also offer.

Mr. MADDUX: Well with this understanding Mr. Treadwell, that in case we require Mr. Merritt here——

Mr. TREADWELL: Certainly, I told you that; and when you inform me will produce the books here or anything of that kind.

Mr. MADDUX: Yes.

Mr. TREADWELL: I will say with reference to the books of the Company, however,—I presume it would be satisfactory to the Board and I think it will be satisfactory to you—if you desire to examine the books I would like you at our expense to come and do so at San Francisco because our books were burned by the fire—the great fire there, some of them were entirely destroyed, but the books from which this statement was made—which contained this—were not entirely destroyed but they were charred and can only be read with great care because the least handling would destroy them and I would not like to have to carry them to Modesto; but if you will come there at any time you are welcome to them and we will bear the expense of the examination.

Mr. MADDUX: All right; that is all right.

Mr. TREADWELL: Mr. Reporter there is a transcript of the testimony taken in Merced I have offered, I will leave it with you.

Now gentlemen, I will pass to the District Attorney for examination a form of order which I have drawn here after much thought and which I think complies with the statute, and it is quite important that whatever order you should make should be made in accordance with the statute. Of course I have left blanks in here for the figures you will finally determine on, as to those I make no suggestions at all, but the form of the order is one I would
1808 like to see entered and I think the District Attorney will approve of it.

Mr. MADDUX: Well, that will be after examination.

Mr. TREADWELL: That is after you examine it (handing to Mr. Maddux a copy).

Now Gentlemen, if you would like to postpone this hearing to another time we will be prepared to attend at that time and with any witnesses that you may designate.

Mr. MADDUX: What is the next day of meeting?

CHAIRMAN: I would suggest we postpone it to the 11″ of June.

Mr. MADDUX: What is the next day of meeting?

CHAIRMAN: We meet on the 10″ of June.

Mr. MADDUX: I think you had better have a day specially for this matter.

CHAIRMAN: A special meeting?

Mr. MADDUX: No, a special day; finish all your other work and then take this up. The 12″ would be Wednesday.

CHAIRMAN: Say we put it for the 12″ of June and take it up at ten in the morning say, would that give plenty of time?

Mr. MADDUX: Yes.

Mr. SHORT: We might not finish it in a day, why not put it on

the 11? I have a matter that we have agreed to set on the 13", so if it would be satisfactory all 'round why not put it on the 11?

Mr. MADDUX: Mr. Wangenheim cannot be here on the 11"; he represents those people.

Supervisor DAVISON: If we don't get through the first day we can continue the following day.

Mr. SHORT: Yes, but I say I have a matter on the 13" and I wanted to be here with Mr. Treadwell if I could.

SUPERVISOR: We might take it up on the 12"—we might continue it to that day and then if not concluded it could be continued over the 13".

CHAIRMAN: Well, as Mr. Wangenheim cannot be here on——

1809 Mr. TREADWELL: There is one matter I forgot to mention; there is in this transcript of testimony that was taken at Merced the testimony of two witnesses on another point and if there is no objection I would like to introduce this also; the testimony of J. D. Schuyler and Walter James who are engineers very familiar with conditions in this Valley and testified as to the various amounts of loss of water in these canals by evaporation and seepage. As those witnesses reside, one in Los Angeles and the other in Bakersfield it is difficult to get them.

Mr. MADDUX: What do they fix it at?

Mr. TREADWELL: Well the sum of their testimony is this, that in the first portion of the canal from the beginning—beginning with the head and down to the central point of Merced county the loss on a full canal is ten feet, that is ten second feet per mile, from there to the middle point in Stanislaus County seven feet per mile, and from there to the end of the canal five feet per mile.

Mr. MADDUX: What percentage? Here in the other case they testified it was from 25 to 30 per cent.

Mr. TREADWELL: Well in that other case the testimony was by different witnesses. These witnesses made a special examination of the canal and give actual quantities.

Mr. MADDUX: That is all right; we don't care for that.

Mr. TREADWELL: Very well, then I offer that also.

Mr. MADDUX: I can't hardly understand so many feet; what percentage?

Mr. TREADWELL: Well, it is about like this——

Mr. MADDUX: What percentage would that be?

Mr. TREADWELL: I will tell you what percentage that would be. I have figured that myself—I haven't those figures here.

Mr. SHORT: Yes, I have them.

1810 Mr. TREADWELL: Well if you have that computation of mine I can tell Mr. Maddux. Now reducing that to percentage, it would be about like this, the loss for the water delivered in Merced county—in Fresno county would be .1243—that is to say about one and one-fourth per cent—no, about twelve per cent; in Merced, for water delivered in Merced county .339, that would be about 34 per cent; for water delivered in Stanislaus County .5367 or about 54 per cent.

Mr. MADDUX: It would be more than half then in this county.

Mr. TREADWELL: Yes; however actual experience has shown as you will see by the testimony in that transcript of Mr. Rouse——

Mr. MADDUX: Yes.

Mr. TREADWELL: Mr. Rouse has since testified—the same thing in another suit—that in actual experience by the greatest care he could take he never could get half the water down to Stanislaus county even when he shut it off entirely from the other counties above. However that is a matter to be considered hereafter. Thank you.

The further hearing of the matter was continued, by consent of all parties, to June 12" 1907 at 10 A. M.

1811 "J. Q. DRUMMOND, a witness called on the part of the San Joaquin & Kings River Canal and Irrigation Company, after being duly sworn, testified as follows:

Mr. TREADWELL:

Q. Where do you live, Mr. Drummond?

A. I live in Merced county.

Q. Are you acquainted with the canals of the San Joaquin & Kings River Canal and Irrigation Company?

A. Yes sir.

Q. You irrigate lands from one of these canals do you not?

A. Yes sir.

Q. Were you ever employed by that Company in any capacity?

A. Yes sir, I was.

Q. How long ago was that?

A. I was first employed in 1871.

Q. And when did you leave?

A. Well, about 18 years, I think.

Q. You worked for them about eighteen years?

A. Yes sir. I think during that time I was off six months out of a year I went away.

Q. So you haven't worked for that Company since 1889?

A. No sir.

Q. During the period since that time you have been engaged in farming, have you not?

A. Yes sir.

Q. And also been engaged for some years as deputy assessor?

A. Yes sir.

Q. And in those ways you have acquired, I believe, a knowledge of the value of land along the line of that canal.

A. Yes sir, I think I have.

Q. What, in your opinion, is the value of the land occupied by that canal in Fresno County, that is, the land right along over the line of the canal and right of way, how much is that worth an acre on the average in Fresno County, that is the present value?

A. Some parts of it is worth more than others.

Q. I mean strike an average.

A. Well I would say 15 to 20 dollars an acre.

Q. You are speaking now of the main canal are you?

A. Yes sir, that is the main canal.

1812 Q. Are you acquainted with the Dos Palos canal, the land along there?

A. No sir.

Q. You say the value along the main canal in Fresno County the land is worth from 15 to 20 dollars an acre.

A. Yes sir.

Q. Along the main canal in Merced County taking an average through the whole county how much would it be on an average?

A. Well, there is a great difference in the quality of the land.

Q. Of course, we understand that.

A. There is some of the worst land through which the canal is constructed is in Merced County, and there is probably 10 miles there in one body that I would think that is not worth more than $10 an acre.

Q. But taking an average of the whole land on the canal, line of the canal through Merced County, how much do you think it would be on an average?

A. Have you a map with the mileage marked on it?

Q. No, sir, I have no map here at present. I had all these things here, they were filed in 1904 but on searching lately—I don't know what has become of those things.

A. I have an idea that I would rather have you segregate it and place the value on the different sections.

Q. Well, we will say, take it from where it enters Merced County down to Camp 13, how much would the land be worth along there?

A. $10 an acre.

Q. Now, from there on down to Volta?

A. You won't go through cheap lands there.

Q. Well, say about as far as you think the cheap lands do go.

A. If I had a map with the milage on I could point it out exactly. Well, I should say that from Camp 13 for 6 miles the land is about of the same value that I gave on the other parcels; from that down to the vicinity of Volta I would say it was worth a hundred dollars an acre.

Q. And from Volta down to Newman?

1813 A. From Volta down to Newman, down near San Louis Creek, say $40.00 an acre; from San Louis Creek on down to the county line $100 an acre; that would be my estimate.

Q. Well, take all those together wouldn't you say Mr. Drummond that $50.00 an acre for the average of the whole thing would not be far out of the way?

A. No, I think not.

Mr. TREADWELL: That is all, unless someone else wishes to ask something."

"F. B. MARKS, a witness called on the part of the San Joaquin & Kings River Canal and Irrigation Company after being duly sworn testified as follows:

Mr. TREADWELL:

Q. Where do you live Mr. Marks?
A. Merced County.
Q. At what place?
A. It is near Dos Palos, on the colony.
Q. Are you familiar with the canal of the San Joaquin and Kings River Canal and Irrigation Company known as the Dos Palos canal?
A. Yes sir, the canal that supplies Dos Palos?
Q. Yes, the canal that supplies Dos Palos?
A. Yes sir.
Q. You have been irrigating under that for a number of years, have you not?
A. Yes sir, for a number of years, 13 or 14 years.
Q. You are a farmer?
A. Yes sir.
Q. And as such have been acquainted with the lands in that vicinity?
A. Yes sir, I think so.
Q. What, in your opinion, is the value of the land occupied by the Dos Palos Colony Canal, the land actually occupied by that canal and the right of way adjacent; how much is it worth on an average?
A. Well, that runs through different streaks of country; the head of that canal begins in very poor land, the rest of it after a distance of 6 or 8 miles is very good land.
Q. Well, just give an average if you can.
A. I should say the first land isn't worth over $25.00 or
1814 $30.00 an acre but it runs through land that is easily worth $100 an acre.
Q. And could you put an average price on it along for good and bad both?
A. Well, that would depend on the milage, on how many miles it would run through what I call poor land and how much of the good; there is a good deal more good land than poor. I should say it would be worth on an average $60 or $70 an acre.
Q. Are you also familiar with the land through which the main canal runs through Fresno County?
A. Yes sir.
Q. How much on an average do you think it is worth?
A. Well, most of that, that is poor land. There is a little good land down near the head of the canal but the greater part of that is very poor land. I shouldn't think that it would average over $15.00 an acre.
Q. The good land you speak of at the head of the canal is only just a little, short strip?
A. Yes sir, just a little, short strip.
Q. And nearly all of it is very poor land?
A. Yes sir, almost exclusively.
Q. How far are you acquainted with the land occupied by the outside canal in Fresno county?
A. Well, through Fresno County and just a portion of Merced; I am not acquainted below.

Q. Through the portion you are acquainted, how much is that land worth?

A. Well, that land produces better crops than some of the other land, at the same time there is very little demand for it; I should say 15 to $20 an acre is the outside figure on that.

Mr. TREADWELL: That is all."

1815 "W. J. STOCKTON, a witness called on the part of the San Joaquin & Kings River Canal and Irrigation Company, after being duly sworn, testified as follows:

Mr. TREADWELL:

Q. Where do you live, Mr. Stockton?

A. I live near Los Banos.

Q. What is your business?

A. Well, at this time I am a farmer.

Q. How long have you been farming in this county?

A. Ever since 1872.

Q. You are quite well acquainted with the value of lands in the vicinity that you live, are you not?

A. I think so.

Q. Are you acquainted with the value of lands generally through which the canals of this company run?

A. I think so, yes sir.

Q. How much in your opinion, is the average value of lands occupied by these canals in Fresno County, just the average.

A. Well I am not acquainted with the Dos Palos canal.

Q. You are acquainted with the Main canal and the Outside canal?

A. I should think $15 an acre would be very fair.

Q. How much in Merced County?

A. I would have to say like Mr. Drummond, I think from the county line up to San Louis Creek would average $100 an acre, about 7 or 8 miles from where Mr. Wood's land and the Canal Farm there, there is about 10 miles of land worth $100 an acre, the balance of the land, of course, is not very good, it is all alkali, say $10 or $12 an acre.

Q. Are you acquainted with the value of the land below that down across the line of Stanislaus County?

A. Of course I know the land, but I am not well acquainted with the value but I should think about the same value as the land in Merced County out through Cottonwood and through there.

Mr. TREADWELL: That is all."

1816 "J. N. STUHR, a witness called on the part of the San Joaquin & Kings River Canal and Irrigation Company, after being duly sworn, testified as follows:

Mr. TREADWELL:

Q. What are your initials?

A. J. N.

Q. Where do you live?
A. Newman.
Q. Stanislaus County.
A. Yes sir.
Q. What is your business?
A. Real estate and Insurance business.
Q. Are you familiar with the value of lands in the vicinity of the canal of this company in Stanislaus County?
A. Yes sir.
Q. On the average over where this canal crosses the county line from there to the end of the canal how much on the average do you think the land is worth which this canal occupies??
A. I think it will estimate about on an average of $100 an acre.
Q. And are you at all acquainted with the value of land above that in Merced County along the canal?
A. Yes sir.
Q. How far up?
A. Well, up to Volta.
Q. Well, from Volta then down to Newman, between those places or to the county line, how much do you think the land occupied by the canal in Merced County is worth?
A. From the line to San Louis Creek the average would be about pretty near the same as in Stanislaus County; from there up it is a good deal cheaper.

Mr. TREADWELL: That is all."

J. Q. DRUMMOND, recalled on the part of the San Joaquin & Kings River Canal and Irrigation Company, after being duly sworn, testified as follows:

Mr. TREADWELL:

Q. Mr. Drummond what do you know of the conditions of the labor market in this vicinity at the present time as a farmer, is labor plenty, do you find it plenty or scarce?
1817 A. No sir, it is very scarce.
Q. When you can get men—I mean ordinary labor—I mean when you can get men, how much do you have to pay them?
A. I am paying $2 a day now for farm hands.
Q. Can you get enough men even at that price?
A. No sir.
Q. You built a large portion of this canal did you not?
A. Yes, of the old canal.
Q. And you are familiar with that kind of work.
A. Yes sir.
Q. Would it be possible at the present time in the condition of labor in this valley to get anyone to undertake to build this canal now, just now, could you get labor enough to do it?
A. I don't think anyone would undertake it right now.
Q. Would it be possible to get enough teams to do the work?
A. I don't think so.

Q. How do the prices for teams now compare to what they were a few years ago?

A. Very much higher.

Mr. TREADWELL: That is all."

"C. Z. MERRITT, a witness called on the part of the San Joaquin & Kings River Canal and Irrigation Company, after being duly sworn, testified as follows:

Mr. TREADWELL:

Q. Where do you live, Mr. Merritt?

A. In Oakland.

Q. Are you connected in any way with the San Joaquin & Kings River Canal and Irrigation Company, incorporated?

A. I am the secretary.

Q. How long have you been secretary?

A. I have been secretary of that company ever since its incorporation.

Q. And of its predecessor altogether?

A. Altogether, since '83.

Q. You have had the custody of the books and accounts of the company during the time you have been secretary have you not?

1818 A. Yes sir.

Q. Are those books now all in existence?

A. No sir.

Q. What happened to them?

A. Several books were burned in the fire of April of last year.

Q. During the time that those books were in existance did they show the actual cost of the canal and works of this company?

A. They didn't show the actual cost so as to be able to seggregate the entire cost in items that could be identified as such. The cost was all shown with that item of original costs of construction; there were mingled during a certain period charges or costs of operation on one section of canal first constructed was carried on at the same time that construction was being carried on in later work.

Q. So, if I understand you, some of the charges in that book that were charged to construction perhaps should not have been charged to construction?

A. Yes sir.

Q. Did you ever consult these books or make an examination of them to ascertain how much the canal cost?

A. I did.

Q. What was the result of that examination? What did you find?

A. Identifying what items that could be possibly identified as being the cost of the construction entirely eliminating not only those that were relating to maintenance but those we could not identify and which we knew must have related to construction but could not be identified as such, amounted to $1,019,763 on the first of July, 1904.

Q. So up to that time you knew the canal had actually cost in money that much, if not considerable more.

A. Considerable more.

Q. But that much was definitely shown?

A. That much was definitely shown as the construction cost.

Q. Do these books you have, does it give the value of the land occupied by the canal?

A. No sir.

Q. Does it include the value of the land?

A. No sir.

Q. It doesn't include the value of the land?

A. No sir.

Q. It just includes the actual cost of the works?

A. Yes sir.

1819 Q. With regard to the land that the canal runs through, the rights of way, speaking generally now, have you got?

A. The rights of way from the head works of the terminus of the main canal in Stanislaus county, about 200, for the most part 200 feet; there is a section of that, however, which is for 250 feet where a parallel canal has been constructed running from a point in Fresno County to Los Banos Creek in Merced County.

Q. Now, the parallel canal is located in part on the right of way of the main canal?

A. Yes sir.

Q. Then it is 50 feet in addition.

A. For 50 feet for the purpose of maintenance to give us room to operate.

Q. Now, such lands as you have and other joining your canal, of course I wouldn't ask you about the title, this may be shown by deeds &c., but what do you know about it, do you know anything about it yourself?

A. We know it for the most part but I don't profess to speak as an expert on title.

Q. But you suppose you know?

A. We have a record title.

Q. And in any event that land which is occupied by and along side of the canals you have the exclusive use of that, have you not?

A. Yes sir.

Q. And in the exclusive use?

A. Yes sir.

Q. You couldn't manage the canals without having it?

A. No sir.

Q. There are three canals connecting the outside canal with the main canal known as outlets 1, 2 and 3, do you know the right of way for these?

A. Yes sir.

Q. What is the size or width of them?

A. I believe 50 feet.

Q. There is a little branch canal in Stanislaus County called Orestimba Branch, what land have you there besides what lands the canal itself occupies?

A. None in that particular branch.

Q. On that particular branch the only land you occupy is what the canal itself holds?

A. Yes sir.

1820 Q. That, I believe, according to the size given would be 40 feet?

A. Yes sir.

Supervisor HALEY:

Q. By the way, does the value of the land or the right of way, is it included in this here estimate you made?

MR. MERRITT:

A. No sir.

Q. Can you give an approximate value of the amount of land through which the canal runs?

A. I never made any estimate of the value personally.

Q. You add that to the Company's property, don't you?

A. No sir, we never have it in the books, it doesn't appear in the books.

Q. You value that land at considerable money?

A. We value it, yes, we didn't pay for it, that is, for a great deal of it was given to us for a right of way for the benefit which accrued to the land owners by virtue of this construction; our books only show the cost, our books don't show the estimated value of things that didn't cost us anything.

Mr. TREADWELL:

Q. So, a considerable portion of the land occupied by these canals and right of way were in a fashion donated by the owners in order that the company should build the canal which would benefit their lands?

A. Yes sir.

Mr. TREADWELL: That's all the testimony that we care to put in, but if there is anything, however, that the board desires, we would like to enlighten it.

Supervisor BAXTER: What were the rates here before?

Supervisor HALEY: As I understand the matter the company considers the former rates too low and their desire is to place the matter before the board in such a way as to give an estimate as to what they really ought to have on the interest or money that is invested in this here estimated cost of the canal.

Mr. TREADWELL: The law generally requires you to fix the rates based on this value, you are required to determine what the
1821 value is and you are required to fix the rates of not less than 6 per cent on that and in addition to that how much it cost—I have forgotten to prove that—how much it cost to keep up the canal each year."

"C. Z. MERRITT, recalled on the part of the San Joaquin and Kings River Canal and Irrigation Company, after being duly sworn, testified as follows:

Mr. TREADWELL:

Q. Have you had prepared from your books a statement of the annual expenses of this company?

A. I have.

Q. During what period?

A. Beginning with 1895 and continuing to and including 1906, being a period of 12 years.

Q. Have you that statement in writing?

A. I have.

Q. That statement shows correctly what it has cost the company to keep this canal in repair and the administration and services necessary to furnish the water?

A. Yes, with one qualification which I would like to state in the year 1890.

Q. 1890?

A. No sir, 1900. The items which are given to make up the maintenance account as to that part of the statement containing three items which I was unable to accurately decipher from the books which were destroyed by fire I identified as correct one of the accounts I thought I was able to read and put it down what I made it out to be, the other two I couldn't make out at all, therefore I put the total that way that was necessary to make up a grand total. These two items put them in as one item. I want to make that qualification, and so if I am able to decipher it I can make the change.

Q. This statement shows each item of expense, one of these items that appears here is expenses of certain litigation with Stanislaus County through water rights and I see your statement also contains the tabulation omitting that item?

A. Yes sir.

1822 Mr. TREADWELL: And I say to you that I don't think we should have any credit for that item while the statute says we ought to be allowed our reasonable expenses. Of course we have to defend our water rights and we are entitled to that but still I don't think we are entitled to litigation we have over water rights so in this statement we have eliminated the expenses of that litigation.

Q. Have you prepared, Mr. Merritt, have you the number of acres irrigated from each canal and in each of these three counties?

A. I have.

Q. From what period?

A. Beginning with 1897 and continuing to and including 1906, a period of ten years.

Mr. TREADWELL: Please note the statement, just put that in and make that exhibit E, this statement and now this one, the statement of the number of acres, Exhibit F.

Mr. TREADWELL: This statement, gentlemen, shows the number

of acres irrigated in each year from each of these canals separated by canals, and separated by counties, this statement here.

Mr. TREADWELL: Now here before this board on the 20" day of June 1904, there were two witnesses who testified, J. D. Schuyler and Walter James. I will ask the consent of your Honors to introduce this testimony which was taken down by the shorthand reporter, and we will ask it to be copied from this transcript. You all remember no doubt what their testimony was and the shorthand reporter can copy it."

1823 "J. D. SCHUYLER, a witness called on the part of the Petitioners, after being duly sworn, testified as follows:

Mr. FARRAR:

Q. Mr. Schuyler, where do you reside?
A. I live in Los Angeles.
Q. How long have you lived in Los Angeles?
A. About 12 years.
Q. What is your business or profession?
A. I am a civil engineer.
Q. How long have you followed that business?
A. About 35 years.
Q. Have you had any experience in building or engineering for water companies, canals?
A. Yes sir, very extensive experience.
Q. Do you know anything at all about what the proportionate loss of water by reason of evaporation would be in a canal in the San Joaquin Valley west of the San Joaquin river?

Mr. TREADWELL: I suppose you mean evaporation and seepage also?

Mr. FARRAR: Yes, evaporation and seepage, what proportion according to the length of the canal?

A. I made some endeavors to ascertain the loss in canals in a number of instances in this state for a good many years back. My first experiment was in 1880 in connection with the canals in Kern county, and I was then employed as Assistant State Engineer endeavoring to get at the facts in connection with the water question and irrigation question throughout this valley and measured all the canals repeatedly and for months with a view of determining what the losses were by evaporation and seepage. I also measured the San Joaquin & Kings River canal, but not so completely, at that time for the same purpose. My general conclusion was published in a report in 1880. My recollection of those conclusions is in a general way what the losses by evaporation and seepage ranged from about one cubic foot per second per mile to about ten, that being the maximum of the largest and widest canal in the state.

1824 I have recently gone over this canal, driven the whole length of it and observed the condition of it and compared it in my mind with the conditions as they prevailed in Kern County at the time of my determination there, and while an examination of that sort is not a conclusive one as to facts, yet in a general way I think that one would be conservative in saying that the losses are greater

in this canal at the present time than in the Kern county canal; there is more positive evidence of it on the surface.

Q. What is the occasion for that?

A. You see for miles standing pools, great areas of seepage in which quite a growth is taking away the water at a very rapid rate by evaporation, and I made up some general figures which, I think, are fairly conservative.

Q. Have you got those figures?

A. Yes sir. From the head of the canal to the central point of the Fresno county section, which is 11 miles, I concluded that the average rate of loss was about 10 cubic feet per second per mile, starting with the full canal of about 1000 cubic feet per second, which is the capacity of the canal.

Q. What percentage would that loss be?

A. That would give a total loss of 110 second feet, or cubic feet per second.

Mr. TREADWELL: That is, do I understand, 110 out of 1000?

A. 110 out of 1000. Now from the central point of Fresno county to the central point of Merced county along the canal, a distance of about 19 miles, I think the rate is practically the same. In that distance we have a double canal, and the total width of the two is something over 100 feet. The loss there in that section in 19 miles would therefore be about 190 cubic feet per second, making 300 in the first 30 miles. That would be 30 per cent of the entire volume starting, a thousand second feet.

Mr. FARRAR: From the head to the central point in Merced county?

1825 A. From the head to the central point in Merced county. From the central point in Merced county to the central point of the canal in Stanislaus county, a distance of about 25 miles, the canal is narrower and not so deep and the average loss I think is not greater than seven cubic feet per second per mile. Seven times twenty-five would give a total loss of 175 feet in that section.

Q. That is, out of 1000 feet.

A. Out of a thousand feet, making 175 down to that point out of a thousand. Now from the central point of Stanislaus county to the lower end of the county, a distance of about six miles, the loss is less per mile, because of lessened width and depth and difference in soil and I have estimated it at an average of five cubic feet per second per mile, making a total loss of 30 in that section. The entire loss would amount to 505 cubic feet per second out of one thousand.

Q. That would be a little more than half?

A. A little more than half.

Q. That is to say, now, if you turn in two feet of water at the head of that canal, the proportion would be a loss of about one half of that amount that you turned in at the head.

A. Well if you turned in so small quantity, you would not get anything down at the lower end.

Q. You have calculated in turning in one thousand feet?

A. Turning in a thousand feet. Well, if you turned in a lesser amount, we will say about 600, you would have less total loss but

a higher percentage of loss. You would perhaps get 150 feet through the whole length of the canal if everything was closed, all the gates were shut as tight as possible, and would lose 450 feet. That would be just 75 per cent of the starting quantity.

Mr. FARRAR: I think that is all.

Cross-examination.

By Mr. TREADWELL:

Q. Let us understand, Mr. Schuyler, what you mean now
1826 by the central point at which you estimate this loss?

A. Why the point mid-way of the canal in the county.

Q. In lineal mil-age?

A. In lineal mileage along the canal between the point where it enters the county and where it leaves it.

Q. I did not catch the capacity of the lower end of this canal in Stanislaus county. About what is it?

A. I think it is about 300.

Q. 300 feet?

A. Yes sir.

Q. Well, now, suppose that you were to turn in at the head of this canal 300 feet, how much of that, in your opinion, would ever reach Stanislaus county?

A. Well, I don't think you would get much or any of it at the lower end. I think it takes more than 300 feet to go through, that is from the general appearance of things. That matter can be more definitely determined by exact measurement, and that is the proper way of ascertaining it.

Q. I understand the special examination which you say you made of this canal you made recently?

A. Yes sir, I was over it last week.

Q. But you have been acquainted with it for many years.

A. I have been acquainted with it for 35 years.

Mr. TREADWELL: That is all."

"WALTER JAMES, a witness called on the part of the Petitioners after being duly sworn, testified as follows:

Mr. FARRAR:

Q. Your name is Walter James?

A. Yes sir.

Q. Where do you reside Mr. James?

A. In Bakersfield.

Q. How long have you resided there?

A. Well, over 30 years.

Q. What is your occupation?

A. I am a civil engineer.

1827 Q. How long have you been engaged in that occupation?

A. More than 30 years.

Q. In your occupation as a civil engineer, have you had occasion to estimate the loss of water that would run through a canal in this

country, from the head to the mouth of the canal by reason of seepage and by reason also of evaporation?

A. Yes sir.

Q. Are you acquainted with the San Joaquin & Kings River Canal?

A. I have been over most of their works.

Q. Have you ever made an estimate of the loss of water that would run through that canal from the head to the mouth of the canal by reason of seepage and evaporation?

A. Well, I made some estimates by comparison with the canals with which I have had experience in Kern county.

Q. But you have investigated the Kings River canal for the purpose of making estimate?

A. Yes sir.

Q. Of that loss?

A. Yes sir.

Q. How did you proceed in making that estimate there?

A. We drove along the canal from Newman to the head.

Q. And observed the amount of seepage?

A. Yes.

Q. And of course made your calculation of evaporation from your knowledge as a civil engineer and from your experience with other canals.

A. Yes sir.

Q. Now where did you take the point from which you would estimate the loss by reason of seepage and evaporation on this canal, San Joaquin & Kings River canal, in Fresno county? At what point did you begin at?

A. We went from the head or went rather from the lower end up to that.

Q. Well I am speaking of the calculations that you made. From what point did you make that calculation?

A. Well as a matter of fact I did not make notes for that purpose. I was only observing the character of the ground with reference to canals I have had experience with as indicating whether there would be a greater or less loss by evaporation and seepage than
1828 the canals on which I have made observations, and I went over the figures with Mr. Schuyler which he has presented here and that is all the knowledge I have of the different locations or different points from which he segregates the different portions of the canal.

Q. Well, how would your estimate compare with that of Mr. Schuyler? You have heard his testimony in relation to the loss that will be occasioned?

A. I think his figures are very conservative. They agree with my experience in the Kern county canals.

Q. Do you think there is any difference between the canals in Kern county, or there would be a loss, or a difference in the loss by reason of evaporation or seepage in Kern county?

A. I think in the canals in question the loss would be greater than in any of the canals that we have in Kern county.

Q. You think that the estimate that Mr. Schuyler testified to here is a conservative estimate.

A. Yes sir.

Q. Of the loss that would actually occur there by reason of seepage and evaporation in that canal.

A. Yes sir.

Q. At the middle point in Fresno, Merced and Stanislaus counties.

A. Yes sir.

Q. As testified by him.

A. Yes sir.

Q. You made no calculation of your own independent of that calculation that was made?

A. No.

Q. Did you assist in making the calculations that Mr. Schuyler has made?

A. No, I did not assist in it; I went over the figures afterwards.

Q. But you went over the figures and verified them?

A. Yes sir.

Q. And over the ground?

A. And over the ground.

Mr. FARRAR: I think that is all.

Cross-examination.

Mr. TREADWELL:

Q. Mr. James, you for a great many years have had charge of quite a large number of canals in Kern county, haven't you?

A. Yes sir.

1829 Q. Have you ever made any actual measurements on any of those canals to find out how much loss there was?

A. We have in a general way observations on those canals all the time. The water is measured into the canal and measured out, and the difference between the quantity measured in and the quantity measured out would indicate the loss.

Q. Well, now, would you just tell us about one of those canals, how you found it to actually work there?

A. We have what we call the East Side canal which is a branch of the Kern Island canal and it is constructed through very favorable ground, some hardpan and ground that is not leaky at all, and when I turn 100 feet of water into the canal in a distance of 15 miles we only turn out about 70 feet; that is even after the canal has been full of water for quite a period of time we only get seventy per cent out of the 100 feet.

Q. In 15 miles?

A. In 15 miles, and the Calloway canal which carries some 900 feet of water—don't often have that much in it, but we often have 6 to 700 feet of water, and that has a length of 32 miles. The first three miles is very bad ground, right down an old river channel and the loss is very great, the loss is something like 8 per cent in that distance; not counting that section of the canal, the balance of

the way is very favorable ground, much more favorable than the ground of this San Joaquin & Kings River canal, and the loss there is similar to the estimate made by Mr. Schuyler on this canal here.

Mr. TREADWELL: That is all."

1830 In the Matter of Fixing the Maximum Rates Which the San Joaquin and Kings River Canal and Irrigation Company, a Corporation, Shall Charge for Water for Irrigating Purposes in Stanislaus County.

The above entitled matter came on regularly to be heard before the Board of Supervisors of Stanislaus County, State of California, this 25" day of June, A. D. 1907, the same having been regularly continued from the 14" day of May to the 12" day of June, 1907, and continued by mutual consent from June 12" to this date.

Present a full Board: A. E. Clarey, Chairman, J. W. Davidson, M. A. Lewis, John Dunn and J. J. McMahon.

Attorneys for Petitioner, the San Joaquin and Kings River Canal and Irrigation Company: W. B. Treadwell, Esq. and Frank H. Short, Esq.

Attorney for Stanislaus County: L. J. Maddux, Dist. Att'y.

CHAIRMAN (CLAREY): This is the time fixed for the hearing of the matter of fixing water rates of the San Joaquin and Kings River Canal Company in this county. What is the first order of business?

Mr. MADDUX: We will take Mr. Goodwin first.

1831 R. H. GOODWIN called for cross-examination, testified:

Mr. MADDUX:

Q. Mr. Goodwin when did you make an investigation of the canal?

A. Lately.

Q. I say when did you last make an investigation?

A. In December 1906.

Q. In December 1906.

A. Yes sir.

Q. Did you make these measurements and calculations at that time that you have produced here?

A. Not all of them. I took the data from prior reports.

Q. Yes; how much time did you spend in December going over this canal?

A. About fifty or sixty days, I don't remember exactly but somewhere along there.

Q. Well were you taking measurements?

A. No, I had all the data from prior reports.

Q. Yes.

A. Taking as a basis the last report, which I think was in 1904.

Q. 1904; did you go over it then?

A. I did, in detail.

Q. Was that the report you submitted in Merced and Fresno counties before the Boards of Supervisors?

A. Yes.

Q. Now you made a report and investigation of this canal prior to that time, didn't you?

A. Yes.

Q. When was that?

A. 1896.

Q. 1896. Now in your last report, the report you filed here, what did you estimate the value of the canal system to be?

A. I haven't got the figures proper: I think you have them there.

Mr. TREADWELL: It is in there but it is not added up, however.

Q. You say you did not add them up?

A. No, I did not add them up.

1832 Q. Do you know what the aggregate amount is.

A. No. I did not add them all up.

Mr. MADDUX: Do you know the aggregate amount?

Mr. TREADWELL: I have footed it up but I did not bring my footings with me to-day.

Q. Well what is the approximate amount?

A. Something like a million dollars.

Q. A million dollars.

Mr. TREADWELL: I can tell you approximately, it is $1,120,000 and odd; I cannot come nearer than that.

Q. Now prior to that time you made a thorough investigation of this canal didn't you?

A. Yes sir.

Q. Is this your report at that time, 1906—or 1896? (Showing.)

A. That is my handwriting, yes sir.

Q. Examine the report.

A. Yes sir.

Q. That was when you were employed by the county of Stanislaus.

A. Yes.

Q. To go over this, you and Mr. Grove.

A. Yes.

Q. At that time you estimated the value of this canal to be in round numbers $251,000 didn't you?

A. Yes.

Q. What has increased the value, that $251,000 up to $1,120,000 in the last 12 or 13 years?

A. Well there has a great deal of canal work been done.

Q. Canal work been done where?

A. In—On the system: say the outside canal.

Q. Has there $900,000 worth of work been done since then?

A. No.

Q. What's that?

A. No, not at those prices. That estimate was based on the prices of material and labor at that time.

Q. Yes.

A. Labor and material at present are different.

Q. Yes. Take the canal in the county of Stanislaus, is it of gerater value now than it was then?

1833 A. Well yes it would be. What do you mean by value? Would it cost more to build it? or——

Q. No, in 1896 you put the valuation of the whole system at $251,000, now you put it at $1,120,000: now I ask you in 1896, how does the value of the canal in Stanislaus County compare now with what it was in 1896?

A. In Stanislaus County?

Q. Yes.

A. Well it has practically no more work nor no more structures put on *them* there was in 1896; there may be a few more.

Q. Yes.

A. But the valuation of it is derived from the price of labor and material.

Q. Now in—Didn't you testify before the Board of Supervisors in 1896 that the depreciation was 70 per cent?

A. I suppose I did.

Q. Yes; that is the depreciation. Now has any of this canal been reconstructed or rebuilt since 1896?

A. Of Stanislaus?

Q. No, I am saying of the whole system, that is, of the main canal that irrigates Stanislaus county?

A. Oh, yes, there is an awful lot of work been done there since 1896.

Q. Well I say on the main canal which irrigates the county of Stanislaus, has anything new been done to that?

A. Oh, yes.

Q. What?

A. You mean that portion that lies in Stanislaus County?

Q. No, I mean the whole canal, I mean the whole main canal that irrigates the county of Stanislaus.

A. You mean from the headgates down?

Q. Yes; I am not talking about these side canals.

Q. The main canal?

Q. Yes.

1834 A. Why certainly, there has lots of work been done.

Q. What work has been done?

A. There has a new diverting dam been put in.

Q. Where is that?

A. That is on the San Joaquin river.

Q. A new diverting dam; was that necessary?

A. Why, certainly.

Q. Where was that dam constructed?

A. At the headgates, just a little below the headgates.

Q. What is the value of that?

A. I give it in the estimate.

Q. Well, I say, do you remember?

A. No I don't remember any figures; you will find it classed in the headworks.

Q. (Handing reports.)
A. I estimate the cost of that San Joaquin river weir at $54,000.
Q. $54,000; that has been constructed since——
A. Since 1896.
Q. Yes; now anything else?
A. Oh the main canal?
Q. Yes, on the main canal.
A. There is also a headgate or controlling gate at what they call
ina Slough of $3,000.
Q. Yes; anything else?
A. Controlling weir gates at—on the head canal—main canal two
les and a half or three miles down the canal.
Q. What's that?
A. There is a headgate about two and a half miles below the head-
rks, that was put in since.
Q. How much was that?
A. That is about $3,000—or $4,000.
Q. Was that necessary to bring the water down to Stanislaus
unty.
A. It is necessary to control the water——
Q. Yes.
A. —to bring it down; to operate the canal.
Q. Well, something else? What else?
A. The canal has been widened.
Q. For what purpose?
A. Made deeper to carry more water.
Q. For what purpose?
A. To carry more water in order to deliver water in Stanislaus
County.
Q. To deliver more water in Stanislaus County?
A. I believe so.
Q. Yes.
A. To make it carry more water.
Q. Didn't the Company increase the acreage above the canal and
n't that the purpose of carrying more water?
A. That I don't know sir; I don't know what it was done for
ept the canal wasn't large enough to carry the water that was
ded below.
Q. Yes; don't you know they started a branch canal and ran it
near the mountains and commenced to irrigate other land?
. Yes in 1896 the Dos Palos system was in operation.
Q. Yes, sir.
. Although it wasn't included in my report on that day because
dn't know it belonged to it.
Q. Now the upper canal, isn't there an upper canal now, a canal
has been constructed of late years?
. Yes, that was built I think about 1897.
. 1897.
. Somewhere in that neighborhood.
. Now do you figure that in as an addition?
. I do; it is in the canal system.

Q. I know, but wasn't that for the purpose of irrigating lands that were above the old canal.

A. Yes but—No, not wholly; they have outlet gates that bring some of the waters down to the main canal.

Q. Yes; well they have a parallel canal haven't they?

A. They have a parallel canal and a main canal.

Q. Yes, and this other canal wasn't that constructed for the purpose of irrigating lands above the canal that the old canal could not irrigate?

A. Yes sir, I suppose in the main it was.

Q. Yes. And wasn't that widened and deepened for the purpose of furnishing that canal with water and those people?

A. What, the outside canal?

Q. Yes, the outside canal.

A. Why they could not—if the main canal be deepened it
1836 wouldn't supply the outside canal which is on a higher level.

Q. Well is not that a branch of the original canal?

A. Not the outside canal, no sir.

Q. Where does that start from?

A. It starts from the same headgate—about the same headgate, but goes off on a higher level.

Q. Yes; now anything else?

A. Well, there might be a few——

Q. What was the cost of this widening and deepening?

A. I don't know, I would have to go to work and take the difference between the 1896 report and the present report to get that.

Q. Haven't you any data from which you can tell anything about it?

A. Not at hand, readily.

Q. Now you say none of these things were there in 1896 that you have mentioned?

A. Well there was an old brush dam that was used; but that brush dam was taken out and this work was put in there.

Q. There was a dam there at the time.

A. Yes at the time, a brush dam.

Q. Now is there anything else that has been done since to increase the valuation?

A. Oh there are lots of new structures, stopgates and outlet gates.

Q. Well, about what is their value?

A. Oh aggregate? I don't know.

Q. $20,000?

A. Yes, I guess it would be.

Q. $30,000?

A. It is pretty hard work to go over a system of this kind and segg*r*egate what is old and what is new.

Q. I know, but you have been over it three times haven't you.

A. I have, yes, but I cannot carry everything in my memory. It would take me two or three days to go to work and figure out what you want.

Q. Can't you tell from your data?

1837 A. No, because I would have to check from a terminal to see which is which. They are all numbered by stations.

Q. Here is the prior one isn't it? (Indicating.)

A. That is the one of '96?

Q. Yes.

A. Would you like to go through the whole list of that?

Q. No, but I am asking you if you could tell in a short time?

A. Oh, I can't tell each one of these structures whether they were put in in 1896! The only thing I could tell would be the station number.

Q. Well, now, how do you make the difference between $251,000 and $1,120,000. How do you make it up?

A. It is the different prices of material. The cost to put that structure in at the present time would cost more than it did in 1896, or build the whole system.

Q. $900,000 more?

A. I think it would. Well you must remember in the report of 1906 (1896) there were a great many things that weren't there, that are at the present time.

Q. Well what things were those?

A. Well as I said, the outside canal was built; there was a drainage canal built; the Dos Palos system has been extended; several outlet canals, mostly all south of the Los Banos Creek.

Q. Yes.

Mr. TREADWELL: If you will allow me, I don't want to interrupt your cross-examination, but the report which Mr. Goodwin has made is and was under our direction on the entire system, but that does not mean that we contend that all of that system is useful to Stanislaus County at all; we do not claim for example that the outside canal of the Dos Palos systems are of any use to Stanislaus County, although the outside canal is a little, but still we are not figuring it and have no proof about that; so we do not consider those things, as far as Stanislaus County is concerned.

1838 Q. Well have you any means or data from which you can arrive at the value of the canal system which furnishes the county of Stanislaus with water, leaving out all this other as Mr. Treadwell suggests.

A. I think you can take the main canal and the parallel canal.

Q. Well you have your data there, now can you arrive at it? Segregate the canal that furnishes the County of Stanislaus with water from all the others.

A. In the first place the headgate is chargeable to Stanislaus County, or a certain portion of it.

Q. The whole of it?

A. Oh no, a certain proportion of it.

Q. What proportion?

A. That proportion I don't know as I could tell just now; I haven't given it any thought. But that would be the first item, all the headworks are chargeable to the whole system pro rata.

Q. Have you no way of estimating what is chargeable to Stanislaus?

A. No, I haven't given it any thought whatever.

Q. Well now aside from the headgate what is the value of the remainder?

A. Well in Fresno County the canal—main canal is estimated at $106,215.00.

Q. How much?

A. $106,215.00.

Q. Yes.

A. The parallel canal in Fresno County is $50,200; the item of outside canal and the outlet canal Nos. 1, 2 and 3, they cut some figure.

Q. I just simply want that which brings the water to Stanislaus.

A. Well, omit that and just say the main canal; in Merced County the main canal was $74,069; the main canal extension was $139,652.00——

Q. What is that? The main canal extension?

Mr. TREADWELL: That is from the Los Banos Creek to the line of Stanislaus County.

1839 Q. How much?

A. $139,652.00. That canal originally only ran to the Los Banos Creek; from there on it is called an extension.

Q. Yes.

A. The parallel canal in Merced County is $58,882.00; in Stanislaus County the main canal extension "A" $40,363.00; the main canal extension "B" $29,097.00.

CHAIRMAN: Please give me that last item again; the main canal extension.

A. Extension "B"?

CHAIRMAN: The main canal extension, the last item you gave.

A. Extension "B", is $29,097.50.

CHAIRMAN: Thank you.

Q. That makes $398,448.00. Now what else do you charge up to the County of Stanislaus?

A. I think it should——

Mr. TREADWELL: That does not include the headworks.

Mr. MADDUX: I know; I am asking him.

A. The headworks: the items of the San Joaquin River weir, the Controlling Weir at Headgate, Head Gate on the Main Canal, Headgate on China Slough, Canal Station at Head Gates, Machinery and Tools, Surveying and Telephoning instruments, Office Furniture, all amounts to $84,732.00.

Q. Now you charge that up to the whole system, don't you?

A. Yes.

Q. Now what proportion do you charge up to the system that irrigates the County of Stanislaus?

A. Well, I have never given it any thought.

Q. You have no way of estimating that.

A. I have got to think about that to see what proportion to give to it.

Q. Well in your previous report in 1896 you charged that all up to the main system didn't you?

A. I believe it was all charged right up irrespective of

1840 any——

Q. Yes; adding that to this makes $473,000.

Supervisor McMAHON: 5 I think instead of 4. Mr. Maddux.

Mr. MADDUX: Yes—That makes $573,180.00.

Q. Now your former estimate in 1896 was $251,000, now it is $573,180.00; now how do you make up the difference? How do you account for that increase?

A. Well I think that the earthwork was taken at seven cents a yard in 1896 and I take it at ten cents a yard now.

Q. Can't you get it done over there for four cents?

A. How's that?

Q. Can't you get it done over there for four cents?

A. I would like to see a man contract for it.

Q. Well, I am asking you if you cannot?

A. No, I don't think you can.

Q. Or five cents?

A. No, sir; I don't think you can.

Q. Isn't it a fact the witnesses on the prior examination of this in 1896 testified that it could be done for five cents?

A. In 1896?

Q. Didn't you produce a number of affidavits yourself to substantiate your statement in regard to it?

A. 1896?

Q. Yes.

A. I may have done so, yes sir.

Q. Yes sir; now you say you estimated it then at seven cents.

A. At seven cents?

Q. You estimated, you say in 1896, at seven cents.

A. Yes.

Q. Isn't it a fact you have estimated it at five cents then and you produced a number of affidavits to substantiate your testimony on that proposition?

A. I believe so.

Mr. TREADWELL: I would like to ask this: It is a fact isn't it that the testimony on that occasion was in writing and was preserved here?

1841 Mr. MADDUX: No, I only just have your transcript.

Mr. TREADWELL: Well, it was taken down in writing wasn't it? You have it in writing or print.

Mr. MADDUX: Yes.

Mr. TREADWELL: Then I submit you ought to read it to the witness or allow him to see it.

Mr. MADDUX: Well, I know, but the printed testimony is a special statement gotten up by the attorneys and is not always the testimony of the witness.

Mr. TREADWELL: That is not a statement gotten up by the attorneys, that is a copy of the testimony; the attorneys had nothing to do with it, it came from the Clerk of the court.

Mr. MADDUX: It was in the trial in San Francisco, the taking of testimony before Commissioner Heacock in San Francisco, wasn't it?

Mr. TREADWELL: Mr. Goodwin did not testify there; he only testified before this Board and a transcript of his evidence was introduced there and that will show just what the testimony was.

(Mr. MADDUX:)

Q. Well, now go on and state how you arrive at this difference?

A. In 1896 lumber was taken at $13.00—No—Yes, $13.00.

Q. How much?

A. $13.00, and pine was $11.00. At the present time lumber is taken at $27.00 per thousand.

Q. Well that is for new lumber isn't it?

A. Yes.

Q. But when you figured——

A. This was for new lumber too.

Q. When you figured it before you figured a depreciation on that of 70 per cent didn't you?

A. As a cash valuation.

Q. Now did you figure this lumber at $27.00 new, did you figure that at a depreciation of 70 per cent in this report?

1842 A. No; the figure on depreciation don't enter at all in this report.

Q. Oh, your report is based solely upon the whole thing as absolutely new.

A. Reproduction.

Q. Reproduction.

A. Yes.

Q. You do not figure a depreciation of seventy per cent in this report, on lumber.

A. I have left the question of depreciation out entirely.

Q. Left that out entirely.

A. Yes sir.

Q. So then your report does not state then what the actual cash value of the canal is at this time.

A. No sir.

Mr. MADDUX: That is all.

Redirect examination.

Mr. TREADWELL:

Q. Mr. Goodwin in that connection I will ask you whether or not you found that the canal had in fact depreciated, or the structures on it? Are they or are they not worth as much as new ones to-day?

A. As a cash value, no sir.

Q. I mean for the purposes for which they are designed, are they now as good as new ones would be or are they not?

A. They are just as good for the purposes for which they are intended.

Q. Now you have been asked to give some figures as to the values you placed and which have been commented on here; I will ask you whether in those values you have included the value of the lands occupied by the canal right of way?
A. I have not.
Q. Your report does not show that at all.
A. No sir.

Mr. TREADWELL: You were asked that question before, but I thought I would recall it. That is all.

1843 Recross-examination.

Mr. MADDUX:

Q. The reason you did not include it in your report is that the Canal Company never paid anything for the land, isn't it?
A. No, I didn't put their real estate in; there is none of that in it.
Q. They simply had a right to go over it.
A. I paid no attention to that; I merely made the——
Q. Yes.
A. —item here that there were rights of way, and that is all, giving the amount of the right of way.

Mr. MADDUX: That is all. Before you get off the stand I will offer these two statements in evidence—this itemized statement of lumber, and also the other one, of the former report.
Mr. TREADWELL: You mean the report of 1896.
Mr. MADDUX: Yes.
Mr. TREADWELL: Yes.
Mr. MADDUX: We offer those in evidence as part of the testimony. (Statements marked "Defendants' Exhibit 1" and "Defendants' Exhibit 2.")

C. E. SLOAN, called and sworn as a witness on behalf of the defendants, the Water Consumers, testified:

Mr. MADDUX:

Q. What is your name?
A. Charles E. Sloan.
Q. Where do you live?
A. Austin, Nevada.
Q. You formerly lived here?
A. In Modesto, yes sir.
Q. What position did you hold in this county for a number of years?
1844 A. I was deputy county Surveyor.
Q. Yes; what is your business?
A. I am an engineer.
Q. Yes; how long have you been in that business?
A. About fourteen years.
Q. Yes; what has been the extent of your experience in that business? What places have you followed your profession?

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A. Well principally in the Western part of the United States and British Columbia and Mexico and South America.

Q. Yes, you have been following that in almost all points on the Pacific coast have you not?

A. Yes.

Q. Did you make an examination of this canal system of the San Joaquin and Kings River Canal and Irrigation Company.

A. Yes sir.

Q. In conjunction with whom?

A. With Mr. Smith.

Q. Yes; did you make a report to the Board?

A. I did.

Q. Is this that report? (Showing.)

A. Yes sir, it is. (Report handed to counsel.)

Mr. MADDUX: I offer this in evidence. I will simply state that the present cash value of the canal system is placed at $335,456.62.

(Report marked "Exhibit 3, N. E. L.")

Q. Now in arriving at that estimate did you arrive—make a liberal estimate or a close estimate?

A. Well, I think it has been very liberal.

Q. Yes; a very liberal estimate.

A. Yes sir.

Q. And that report is correct, is it?

A. To the best of my belief, yes sir.

Mr. MADDUX: Take the witness.

Cross-examination.

Mr. TREADWELL:

Q. Mr. Sloan in what branches of engineering have you been particularly engaged?

A. In mining engineering and railroad engineering.

Q. Have you ever had anything to do with the construc-
1845 tion of canals anywhere?

A. Somewhat.

Q. Where?

A. Here in Modesto.

Q. And where else?

A. None outside of this.

Q. Now what canal or works of that kind were you engaged in in the vicinity of Modesto?

A. Well, principally in private ditches; really you could not call them canals, they were too small.

Q. Small ditches?

A. Yes.

Q. How long ago was that?

A. About—well, it has been within the last four years.

Q. What acquaintance have you or had you at the time you made this examination, with the prices of labor and materials in

this Valley at the present time, or at the time you made your examination?

A. Well I am pretty familiar with the prices of labor and material and prices.

Q. How did you become familiar with them?

A. By inquiry.

Q. How?

A. By inquiry.

Q. You had no personal experience with regard to it, did you?

A. Not in the last six months, no sir.

Q. Well, within the last year?

A. Yes.

Q. What?

A. Well, I know what common laborers have been getting here—No, I will correct that, I will say not within the last year, no.

Q. That is what I ask you now, within the last year.

A. Not within the last year.

Q. You do not know yourself then what common laborers are getting around here.

A. Well, I think I do, yes. I haven't hired them and paid them.

Q. How do you know? How did you become acquainted with it?

A. Well, because I have asked a great many men around there who were employing men.

Q. That is the only way you do know.

1846 A. I said I had never employed any in the last year; no sir.

Q. Have you had any business occasion to compute, for example, the cost on special work so you could bid on it?

A. Within the last year?

Q. Yes sir, here in this Valley.

A. No sir.

Q. Or the cost of lumber? Have you had any occasion to buy lumber or have estimates or bids on lumber?

A. Let me understand just what you mean by this Valley? Do you mean the price of lumber in San Francisco?

Q. Well, have you ever bought it in San Francisco?

A. Yes.

Q. When have you had to buy it for use in this Valley?

A. Well I haven't bought any for use in this Valley but I have bought it in San Francisco within a year.

Q. Then you are acquainted with the price of lumber in San Francisco within a year?

A. Yes.

Q. Now in making the estimates you have made here I observe you have no items, so I will have to ask you what you mean by these. How much do you estimate the cost of the earthwork per cubic yard on this canal, the present cost to-day.

A. Part of that is estimated at five cents, part of it at six cents and part at seven cents per cubic yard.

Q. Have you known of any, known or ever heard of any occasion Mr. Sloan, within the past year, when any earthwork of that kind has been done for as low as five cents?

A. Yes sir; for as low as four cents.

Q. Where?

A. Well, this side of Stockton.

Q. Well——

A. In land very similar to that.

Q. Can you give us the name of the person or place so we can ascertain in regard to this? We are in the business and we would like to know where to go to get work done. Now where can it be done for such a price?

A. I could not give you the name of that particular man now, but I can give you the name of a party on another piece of work.

1847 Q. Give us some.

A. Over at Elmdale.

Q. What was done there?

A. Mr. Leister did some work there.

Q. What did he do?

A. Canal work very similar to that, and he contracted it at five cents.

Q. And how much of it?

A. Well, I don't know in regard to the yards but it was a job that took eight or ten teams all summer.

Q. What sized canal, approximately, was it?

A. Well I believe that the largest canal there is possibly 18 feet on the bottom and the smallest would be about six.

Q. And what did you compute the price of lumber, that you state here, at?

A. The price of redwood I figured at $33.00 per thousand delivered on the canal.

Q. And how much for other lumber?

A. $28.00 a thousand delivered on the canal.

Q. Now you have stated here a certain number of cubic yards of earthwork in this canal, you do not however give any items. How did you ascertain the number of yards?

A. I had to take that from Mr. Goodwin's report, the one that is in that book there—in that transcript.

Q. Then you simply assumed Mr. Goodwin's report to be correct and you have——

A. Yes; I didn't assume it was correct for I went over his figures that he submitted in this case in 1896 to see that there were no mistakes in the multiplication, is all; aside from that I took his figures.

Q. Then you have not included—in your report you have not included any work that was done since 1896.

A. Yes, sir, I have.

Q. Well, how is that, if you have just taken Goodwin's figures in 1896?

1848 A. Well; there is the Orestimba outlet canal or branch canal that Mr. Goodwin put in, I have included; and also the Dos

Palos canal. I have included everything under the Dos Palos system in this report. I haven't segregated it however.

Q. No, I see you haven't segregated anything.

A. No sir; that report includes everything under the main canal, the Dos Palos canal and all its branches, and the Orestimba branch.

Q. Are there any other figures in here which you got by independent investigation and not from Mr. Goodwin's reports? Did you measure anything in this canal yourself?

A. I measured all the gates, drops, weirs, stopgates, outlet gates—outlet boxes, the bridges and buildings.

Q. Have you your notes of those measurements?

A. I have some of them; some of them——

Q. You could not give us a detailed statement then as Mr. Goodwin has?

A. Yes sir.

Q. When can you do that?

A. Mr. Maddux has it in front of him there.

Q. Is this the paper to which you refer Mr. Sloan? (indicating).

A. Yes.

Q. Well now, you will observe that that paper simply contains a list of figures; it does not in any case show where any of those are, which gates or where they are or what the dimensions of them are, other than a list of pages and figures, is not that correct?

A. I don't know as I understand just what you mean by that?

Q. Is there anything in that report which you hold in your hand that shows any particular structure, that we could identify as a particular structure, and say you measured it correctly?

A. You mean identify it on the ground?

Q. On the ground, yes.

A. With reference to how far it is from the end of the canal?

Q. Yes, or any way of identifying it at all; is there any-
1849 thing there more than a series of figures that you estimate, without showing what they belong to?

A. Well, yes.

Q. What, now? I don't see anything else myself.

A. You didn't look far enough.

Q. Well, I glanced over it. That is the reason I ask you, because you are familiar with it.

A. Well, at the conclusion of each one of these columns of figures there is the total number of bridges, for example.

Q. But that is all. What I am asking, you have simply given certain totals there, that is the way it looks to me.

A. Yes.

Q. But I don't see anything there by which you could ascertain what your measurement was on any particular gate or bridge or dam or anything else. In other words, anything by which we could check your figures.

A. Well the only way you could check them would be to go over the entire system.

Q. That is to add them all over again and see whether our totals are the same as yours.

A. Yes sir.

Mr. SHORT: We might start in on the wrong end though.

WITNESS: Well it wouldn't make any difference if you went over all of it.

(Mr. TREADWELL:)

Q. And if we came out different we would not know where we missed yours?

A. Well, the first two items here are two stopgates 24 x 30, now if you only had one of them checked off when you got through you must have missed one or else I have got one too many. I think you can check up though so you can tell whether it agreed with what is on the canal or not. It will not agree with Mr. Goodwin in regard to the number of bridges for this reason, that there are a great many county bridges on the canal that I believe Mr. Goodwin has included.

1850 Q. Are not you aware of the fact that those bridges were all built by the Canal company at the expense of the Canal Company; the Law requires them to build them at their own expense.

A. I was not aware of it.

Q. And that none of those bridges were built at the expense of the county?

A. I am aware some of them were not built at the expense of the county, but am also aware that I have had occasion to have several of them repaired at the expense of the county since they were built. Mr. Clarey who is the supervisor on the West Side over there keeps them in repair.

Q. Has that anything to do with the building of them?

A. No sir, it has nothing to do with the building of them.

Q. You do not know as a fact who did build them, do you?

A. No, I don't know anything about who built them.

Mr. TREADWELL: That is all.

Redirect examination.

Mr. MADDUX:

Q. What is the condition of the canal at the present time?

A. The canal is not in very good condition at the present time.

Q. What is the matter with it?

A. Well there is a great deal of grass in it; a great many breaks in the banks; and the material that is in the drops and in some of the bridges and checks are very badly *rotted*; some of it is very poor.

Q. Yes.

A. Then the canal is very badly silted in other places.

Q. Very badly silted.

A. Yes.

Q. To what extent?

A. Well I could not say just to what extent.

1851 Q. Now to what extent is this lumber rotten that is there?

A. You mean on the whole—the entire system?

Q. Yes; about what per cent is decayed lumber, old lumber.
A. Well take all the lumber that is in the system now, if valued at from fifty-five to sixty per cent. of new lumber it would be a very liberal valuation; take it all the way through.
Q. What?
A. 55 to 60 per cent of new lumber would be a very liberal valuation of it.

Mr. MADDUX: Yes; that is all.
Mr. TREADWELL: That is all.

BURTON SMITH, called and sworn as a witness on behalf of defendant, the Water Consumers, testified:

Mr. MADDUX:

Q. Mr. Smith what is your first name?
A. Burton, Burton Smith.
Q. What is your business?
A. Engineer.
Q. Yes; how long have you followed that business?
A. 16 years.
Q. Yes; do you know the San Joaquin and Kings River canal?
A. Yes sir.
Q. Were you ever employed on that?
A. Yes.
Q. For how many years?
A. Ten months.
Q. Ten months. Had you lived in the neighborhood of the canal for any number of years?
1852 A. For two years and eight months I think or something near that.
Q. Yes; while you were employed on the canal for those ten months what were your duties?
A. I was superintendent of the canal.
Q. Superintendent of the canal.
A. Yes.
Q. The whole canal?
A. Yes, the system.
Q. What is your business now?
A. I am superintendent of the Turlock Irrigation District at the present time.
Q. The Turlock Irrigation District canal.
A. Yes sir.
Q. Do you know the extent of that canal?
A. Do I know the extent of it?
Q. Yes.
A. Something near 180 miles.
Q. How does it compare in size with the Kings River Canal—San Joaquin and Kings River canal.
A. Well it is a larger system.
Q. It is a larger system.
A. That is it is more extensive.

Q. Yes; now in conjunction with Mr. Sloan did you go over and make an examination of the canal?

A. Yes sir.

Q. Did you sign this report with him? That is your signature is it? (showing.)

A. Yes.

Q. You and he made an estimate.

A. Yes sir.

Q. Was that a liberal or a close estimate you made?

A. I consider it a very liberal estimate.

Q. What is the condition of the canal?

A. Very poor.

Q. Very poor. Well in what does that consist of?

A. Well there are a great many breaks, the banks have been injured by overflows, etc., pretty nearly the entire length of the canal; and it is very badly silted in in places, decreasing the cross-section by I should say 30 or 40 per cent.

Q. Now as to the lumber which is in the canal or that is used in the drops and other parts of the canal, what is the con-
1853 dition of that at the present time.

A. Portions of it is good, other portions of it is very poor.

Q. Yes; now about what per cent of depreciation would it be, would you consider it, from new lumber?

A. Taken as a whole?

Q. Yes sir.

A. I should say fifty per cent.

Q. Yes; this report you have filed is correct is it, so far as you are able to ascertain.

A. As far as I know, yes sir.

Mr. MADDUX: Take the witness.

Mr. TREADWELL: No questions.—Well, I will ask you one question:

Cross-examination.

Mr. TREADWELL:

Q. Mr. Smith, when were those ten months you were employed on this canal?

A. From the first day of January to the first day of November in 1904.

Mr. TREADWELL: That is all.

Mr. MADDUX: That is all.—I will offer this detailed statement in connection with the witness' testimony.

(Statement marked "Exhibit 4. N. E. L.")

E. S. WANGENHEIM, called and sworn as a witness on behalf of Defendants, the Water Consumers, testified:

Mr. MADDUX:

Q. Mr. Wangenheim you reside at Newman.

A. Yes sir.

Q. And you are manager of the firm of Simon Newman Co.
A. Yes sir.
Q. And a partner, are you?
A. Yes sir.
Q. Are you familiar with the canal that irrigates the county of Stanislaus known as the San Joaquin and Kings River Canal and Irrigation Company's canal?
A. Yes sir.
1854 Q. Do you know what condition that now is in; have you examined it lately?
A. Not particularly, only by driving along; haven't made any examination with a view of testifying to anything about it.
Q. Well do you know anything about the rights of way that the Company had there? Know whether they paid anything for th or not?
A. Well I never heard of them paying for anything.
Q. Well did they go through your lands—lands of your Company?
A. Well, I don't know whether——

Mr. SHORT: Of course that is objected to; subject to the objection it is immaterial and irrelevant.
Mr. TREADWELL: I suppose it is not necessary for us to make any objection at all.
Mr. MADDUX: I don't think it makes any difference whether you do or not.
Mr. TREADWELL: At any rate we are not making any; are willing to answer any questions you wish.
Mr. MADDUX: All right.

Q. What is that? What were you going to say?
A. I don't know whether our Company deeded any land; it wasn t a Company at that time—at the time that the canal was built.
Q. Do you know of them ever paying anything for any right of way?
A. Well I know when the right of way was given there for the canal it was given gratis.
Q. Yes; you know that.
A. I know that; and I also know that in some instances the people reserved the right to use all the land that wasn't occupied by the canal.

Mr. MADDUX: I believe that is all.
Mr. TREADWELL: That is all Mr. Wangenheim.
Mr. TREADWELL: I suppose it is none of my business to
1855 testify, but I do know that the gentlemen Mr. Wangenheim represents were so public spirited that they did give the right of way; and I should expect them to do so if we had it to do again.
Mr. WANGENHEIM: We certainly would; but you have no right to tax us with a hundred dollars an acre for it now.
Mr. MADDUX. Yes.
Mr. SHORT: We will go back to the question of what the whole thing cost is if that will suit you better.

Mr. MADDUX: Well it certainly would, because I see where your manager and engineer had a row about the matter of squandering $350,000 in construction, according to your books.

Mr. TREADWELL: Well confine yourself to the testimony, we are confining ourselves to the testimony.

Mr. MADDUX: I know, but I am answering Mr. Short.

Mr. TREADWELL: Well I could answer those things satisfactorily if it was worth my while, but I do not care to; I will stick to the testimony.

Mr. MADDUX: I think there is a mistake here in your acreage in Merced County Mr. Treadwell, you have got it eight thousand acres. I think it must be a mistake (showing).

Mr. TREADWELL: That is a mistake, of course; I didn't think to bring any of my papers. I didn't know that they would be wanted, but I remember of seeing that; that has been corrected and I did not know that we had handed you one of those incorrect copies, and if you will allow me I will submit a correct copy for it. As a matter of fact it is thirty something. It is merely a clerical error; a wrong copy was put in in some way and if the Board will consent I will substitute a correct copy for that. I have a correct copy at home.

CHAIRMAN: No objections.

Mr. TREADWELL: As a matter of fact it was over thirty
1856 thousand acres in that year.

Mr. WANGENHEIM: 38,000 probably.

Mr. TREADWELL: 38,000, I think that is what the mistake was—they didn't print the 3. I think that is the mistake.

Mr. WANGENHEIM: Didn't print the 3.

Mr. MADDUX: I suppose it is admitted that all the lands that are irrigated are included in this.

Mr. TREADWELL: Yes; that is a correct statement from our books; no more land irrigated at any time than is stated there, and I believe it is correct with that one exception we were just discussing.

Mr. WANGENHEIM: That is all land that is paid for.

Mr. TREADWELL: Yes.

Mr. WANGENHEIM: Any land that is paid for: if there is any land irrigated that is not paid for it is not on here.

Mr. TREADWELL: That is all: it simply shows just what land is paid for. As a matter of fact in some of those years there has been land irrigated which was not included in that record.

Mr. MADDUX: Another thing I would like to know while we are on that proposition, you haven't your book-keeper here so we will have to ask you.

Mr. TREADWELL: I think probably I could tell you almost anything you wish.

Mr. MADDUX: In your account for maintenance for 1906 you have "legal expenses $21,144.90," what was that?

Mr. TREADWELL: Well there were lawsuits concerning the right to divert water from the San Joaquin river; one of those suits was with Mr. James and the James Canal Company to restrain them from taking water from the San Joaquin river away from us; the

other is a series of suits brought by Mr. Stevenson of Merced against us to prevent us from taking water out of the river.

Mr. MADDUX: That was to prevent you from taking any more than you were using in irrigating these acres of land you have
1857 testified about in these reports.

Mr. TREADWELL: It was to prevent us from taking any water; that is what the pleadings called for, that is all I can tell you. We tried—we had to try those suits.

Mr. MADDUX: But wasn't that the proposition, that you wanted more water than was necessary to irrigate——

Mr. TREADWELL: I don't know anything about the proposition, it was a suit to prevent us—to obtain an injunction to prevent us from taking any water from the river. We tried some of those suits and tried the question of how much water we had taken for more than five years.

Mr. MADDUX: Yes, and the court decided you were not entitled to any water that you had not used for five years, didn't it?

Mr. TREADWELL: Yes, and that is on appeal now to the Supreme Court.

Mr. MADDUX: Now here is labor, $13,000 of that?

Mr. TREADWELL: That is labor performed in the——

Mr. MADDUX: Doing what?

Mr. TREADWELL: All the work on the canal except the cleaning, which you will see is kept in a separate account. It is the ordinary work on the canal—repairing breaks, putting in other boxes and putting in various structures and repairing structures; all the usual work on the canal except the item of cleaning.

Mr. MADDUX: That includes betterments also, don't it?

Mr. TREADWELL: Yes, includes everything that was done.

Mr. MADDUX: Includes permanent improvements.

Mr. TREADWELL: Includes everything that was done; but then there was nothing—there were no additions made in that year.

Mr. MADDUX: I know; but how much of it applied to permanent improvements?

Mr. TREADWELL: There was none of it.

1858 Mr. MADDUX: All repairs?

Mr. TREADWELL: All repairs and ordinary work; you may call it repairs or whatever you please—keeping the canal in order and the structure in order. Every year, as your witnesses have said, a lot of it becomes old and boards and planks and timbers have to be taken out and new ones put in. Being done every year. Then that also includes all the men at work under the section men; includes the section men.

Mr. MADDUX: That is for the whole system.

Mr. TREADWELL: The whole system, certainly. These statements include the whole system. A considerable portion of it is not chargeable to Stanislaus County at all, of course.

Mr. WANGENHEIM: How much?

Mr. MADDUX: Well now in 1906 what proportion of that do you charge to the county of Stanislaus?

Mr. TREADWELL: That is a mere matter of opinion. I have got my opinion if you care for it?

Mr. MADDUX: We would like to know that.

Mr. TREADWELL: Well I think as a matter of opinion, I think that this county should not be chargeable with either or any portion of the costs of these works or of any cost of maintaining them beyond its proportion as its irrigated acreage bears to the irrigated acreage of the other counties.

Mr. MADDUX: How many——

Mr. TREADWELL: For instance, it is shown by that statement—I cannot give it from memory, but approximately—this county probably does not irrigate more than one-fifth as many acres as Fresno and Merced taken together.

Mr. WANGENHEIM: How much of this expense should be charged to the main canal?

Mr. TREADWELL: Well I should be glad to furnish you gentlemen with those figures; I have got all my views computed at home, but I did not bring them because I didn't know you would want
1859 them, but I cannot from memory of course state any figures. But of course anybody can see that this county has nothing to do with the canal except as it brings water to it and is used in this county, and if this county irrigates only 20,000 acres and the other counties irrigate 40,000 acres then this county would not be chargeable with more than one-third of the cost, and so on. That is my theory. It is a mere matter of theory.

Mr. MADDUX: Well this Board has to fix the rate.

Mr. TREADWELL: Yes.

Mr. MADDUX: We want them to know what part of the maintenance is chargeable.

Mr. TREADWELL: Well I understand this is a matter for the Board to determine. What I say can cut no figure; that is my opinion merely.

Mr. MADDUX: That is the difficulty, and that is why I wanted the book-keeper, in order to arrive at what is chargeable to the main canal.

Mr. TREADWELL: The book-keeper could not do it; that is a matter of law. How much is chargeable nobody can tell. The labor account is not kept that way; our books do not show that labor on a particular day was work on the main canal or on the outside canal. You have to average these things, you see.

Mr. WANGENHEIM: When you were here before Mr. Treadwell you said in this expense account was a certain amount of these legal expenses that were not chargeable. How much of that?

Mr. TREADWELL: That is shown there on that statement: There is the amount you see, $1,232.25, now that is not chargeable in this; and so the year before and so on (showing).

Mr. WANGENHEIM: But this $21,000?

Mr. TREADWELL: That is the Stevenson and the James suits tried, and there are a few other suits; but they are all suits relating
1860 to water.

Mr. WANGENHEIM: Those suits affected the main canal entirely, or——

Mr. TREADWELL: They affected all the canals equally; they affected our right to take water from the San Joaquin river.

Mr. WANGENHEIM: Isn't it a fact this Stevenson suit practically affects the outside canal? If the outside canal had not been built the Stevenson litigation would never have affected the amount of water that was going into the main canal?

Mr. TREADWELL: I don't understand you exactly. It affects our right to take water from the San Joaquin river without regard to any canal at all.

Mr. WANGENHEIM: They could not stop you from taking any water at all?

Mr. TREADWELL: That is what the suits call for. They did not succeed but they tried it.

Mr. SHORT: Would not this suggestion help Mr. Wangenheim: that they claimed that the old canal was only entitled to some three or four hundred feet of water and if their view had prevailed that the water that belongs to Stanislaus County would have been cut down one half.

Mr. WANGENHEIM: That is what I wanted to get at.

Mr. SHORT: Yes.

Mr. WANGENHEIM: But the legal expense of that should not be charged up equally to the whole system.

Mr. TREADWELL: Certainly not; we do not expect the Board to do that, of course. In all of these things this county should not stand more than its share and its share of course is little in comparison to the other counties.

Mr. WANGENHEIM: Now the item of taxes?

Mr. TREADWELL: That is taxes on the whole system.

Mr. WANGENHEIM: Now as near as we can tell, from the
1861 figures Mr. Goodwin gave, the main canal is 1/2 of the value of the system.

Mr. TREADWELL: Approximately; something like that.

Mr. WANGENHEIM: I see in figuring on the expense to bring them water—conceding they are all correct, although I see you have "canal cleaning $13,000" and then "labor $13,000" again, and I must confess that——

Mr. TREADWELL: You will find those correct Mr. Wangenheim. Those books are open to you at all times.

Mr. WANGENHEIM: That is additions on the canal; building other ditches.

Mr. TREADWELL: You are mistaken: those are not included in that statement at all.

Mr. WANGENHEIM: Well, conceding this to be correct——

Mr. TREADWELL: Kept in a separate account entirely.

Mr. WANGENHEIM: Conceding these to be correct, 1/2 of this expense would be chargeable, approximately, to the main canal.

Mr. TREADWELL: Something like that.

Mr. MADDUX: Now here is the proposition; you say your books do not show where the men worked, whether on the main canal or on——

Mr. TREADWELL: No sir; and I never saw a set of books of anybody that did; at any rate ours do not.

Mr. WANGENHEIM: I will show you a set of books that do.

Mr. MADDUX: How can you arrive at the proposition of fixing water rates on the main canal if you do not keep any books as to what the expense of maintenance is?

Mr. TREADWELL: We think we can.

Mr. WANGENHEIM: I have adopted a system of keeping ranch accounts and give the account where every man worked every day that he drew wages.

Mr. TREADWELL: Well if you have such you have to pay for it then; we are trying to run this economically.

1862 Mr. MADDUX: Well, that is our case.

Mr. TREADWELL: That is our case, gentlemen.

Mr. TREADWELL: Mr. Chairman and gentlemen, I do not propose to detain you by any discussion of these matters. I appreciate the difficulty of your situation in a matter of this kind; the law requires you in this case to do three things, one is, from the testimony to estimate the value of the works of this Company so far as they are used and useful to irrigate in Stanislaus county. Of course, as I have suggested to Mr. Maddux, we do not claim for a moment that in fixing rates here you are to consider the value of work that does not bring any water into Stanislaus County; we do not want that of course, and so with the cost of maintenance and everything of that kind: This county would not be chargeable with anything more than its due proportion. Now what that due proportion is is a matter for you gentlemen to determine, which, I am sorry, imposes a great deal of work upon you; but I have no doubt you will consider it as carefully as you can. First, then, you have to estimate from this testimony what the value of these works are so far as Stanislaus County is concerned; second, what the reasonable ann' annual expenses of the Company are or can be expected to be in the immediate future; and third, upon those data to fix a rate which shall give to the Company not less than six per cent nor more than eighteen per cent on the amount of the valuation over and above the amount of its annual expenses. Now that looks very simple on its face and very easy, but of course gentlemen you have seen by this examination that to come down to those details and reconcile the differences in opinions and differences in the testimony of the witnesses is quite a job. I do not think I can help you on that because I would give you my side and if Mr. Maddux addresses you he will give you his side of it. After all it is not our opinions

1863 which should govern in this but the opinions of you gentlemen, and that you will try to do justice to the Company on the one hand and the Consumers on the other hand I have no doubt myself, and I think you are entirely capable of doing so, and therefore I do not care to say anything more about this unless there is some matter that you see a difficulty about, and in that event I shall be prepared to answer, as well as I can, any question you gentlemen wish to put to me; otherwise I do not care to say anything more

on the matter, except to say that you fixed rates in 1896 and at that time following an old habit or system which had prevailed in this irrigating system the rates were made to commence on the first day of July and applied for that year. They were season rates. That being so and there never having been any change made, I think it is necessary that you should fix your rates this time so as to apply on the first day of July coming. For that reason, although it is giving very little time for you to work, I would suggest that it will be your duty to now fix the rates before the first day of July of this year.

Mr. MADDUX: Of course, upon that proposition, you haven't proceeded under that law where they fix the rates in the month of February.

Mr. TREADWELL: That is not the law Mr. Maddux; that only applies in cities and municipalities——

Mr. MADDUX: The present law under which you are operating does not fix any time; whenever you fix it then the rate changes from that time on. It don't give any first of July or any other time.

Mr. TREADWELL: For the reasons given Mr. Maddux, that cannot be so; this Board has fixed rates for a whole year. It says this Board has ordered, and we must obey that order, that we must furnish to you gentlemen water for a year for a certain price—for one
1864 dollar and a half an acre we must, or whatever price the Board fixes, we must furnish you water for a whole year; whatever water these gentlemen require we must give them, and have to keep it up for a year. Now I apprehend that year commences, as it did commence under that ordinance, on the first day of July; then it does not expire until the 30" day of June following; consequently the new rates cannot apply or be in force unless the old rates were abrogated and they cannot be abrogated as long as they are in force. The contracts are made up to the first day of July and under those contracts we have to furnish water until the first day of July. If this Board might raise those rates—presumably it might—the water consumers could not be bound because they have already paid us at the rates listed last year and we cannot charge it until that contract expires.

Mr. MADDUX: I am talking about the law; the law does not require you to fix it before the first of July.

Mr. TREADWELL: No, but it is by reason of the former ordinance this Board has passed.

Mr. MADDUX: It simply says you must apply to have them re-fix it within a year. Any time after that you can apply.

Mr. TREADWELL: Well, that is all right.

Mr. MADDUX: And the new rate commences from the very moment of making the order.

Mr. TREADWELL: Well I have stated now my understanding of it and I think the Board can see it themselves. I think they understand it.

Mr. MADDUX: Well, that is all.

CHAIRMAN: Well gentlemen, the noon hour has arirved, if you have had all the discussion you want we will adjourn until one o'clock, and if there is anything further we will be pleased to hear

from you, and if there is any information you have to impart we will be glad to hear it.

1865 Mr. TREADWELL: Well as I have said, I do not care to say anything more unless the Board desires it. I would like to ask now, because I may possibly be able to get home on this next train and am somewhat of an invalid, will the Board require me to be present this afternoon?

CHAIRMAN: I know of nothing just now. Do you Mr. Maddux, or do any of you gentlemen?

Mr. TREADWELL: If the Board will permit me I would like to go home, if I can make the connection.

CHAIRMAN: I know of nothing myself, Mr. Treadwell.

Mr. TREADWELL: Thank you.

The Board thereupon took an adjournment until one o'clock p. m.

1 p. m.—Board convened:

At 1 o'clock p. m. the Board convened, and after considering the matter adopted the following resolution:

"Resolution of the Board of Supervisors of the County of Stanislaus Fixing and Establishing Water Rates of the San Joaquin and Kings River Canal and Irrigation Company.

"The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, having presented to and filed with this Board, in accordance with section 6 of the Act of March 12" 1885, 'To regulate and control the sale, rental and distribution of appropriated water in this State, other than in any City, City and County, or town therein, and to secure the rights of way for the conveyance of such water to the places of use,' a petition praying this Board to proceed anew, in the manner provided by said Act, to fix and establish the water rates for said corporation in this County; and notice of said application having been duly published, and the Board having

1866 heard the evidence, now estimates that the value of the canals, ditches, flumes and all other property actually used by said corporation and useful to the appropriation and furnishing of its appropriated water to the inhabitants of this County is the sum of $335,456.32; and that the annual reasonable expenses of said corporation, including the cost of repairs, management and operating said work, so far as relates to this County, is the sum of $35,000.00, and thereupon it is ordered that the maximum rates at which said corporation may and shall sell, rent, or distribute to the inhabitants of this County, water for irrigation, are hereby fixed and regulated at the sum of $1.50 per acre per season, from and after the first day of July, 1907.

It is further ordered that the Clerk of this Board forthwith cause this resolution to be published in full in the Stanislaus County Weekly News, a newspaper printed and published in the County of Stanislaus, State of California, for not less than thirty days after the first publication thereof. The above resolution was passed and

adopted by the unanimous vote of the Board this 25" day of June, 1907.

Attest,

S. B. MITCHELL,
Clerk of the Board of Supervisors:
By GEO. FINK, *Deputy.*"

STATE OF CALIFORNIA,
County of Stanislaus, ss:

I hereby certify the above and foregoing is a full, true and correct statement of the testimony and proceedings had in the above entitled matter taken before the Board of Supervisors of Stanislaus County, California, on the 14" day of May and 25" day of June, 1907.

N. E. LEEK,
Official Reporter, Stanislaus County.

1867 DEFENDANTS' (WATER CONSUMERS') "EXHIBIT 3, N. E. L."

Estimated Cost and Present Cash Value of the Property of the San Joaquin and Kings River Canal and Irrigation Company.

1868 To the Honorable Board of Supervisors of Stanislaus County, State of California.

GENTLEMEN: Acting on the request of your District Attorney, Mr. L. J. Maddux, we have made an estimate of the cost and of the present cash value of the canals, ditches, weirs and other properties actually used and useful to the appropriation, transportation and furnishing of water for said system of canals belonging to the San Joaquin and Kings River Canal and Irrigation Company.

These canals are situate on the west side of the San Joaquin Valley, passing over a portion of Fresno, Merced and Stanislaus counties, State of California.

In making the attached report, we have based same on the present prices of material, labor and supplies.

Respectfully submitted,
(Signed) CHARLES E. SLOAN,
BURTON SMITH,
Consulting Engineers.

Modesto, California, June 24" 1907.

1869 *Report.*

Earthwork, 3,446,218 cu. yds.	$238,092.76
Lumber, 3,372,109 ft. B. M. in place	133,813.56
Telephone	4,000.00
Station buildings	4,000.00
Dredger	6,400.00
Scrapers, plows, tools, etc.	500.00
Horses, harness & wagons	1,400.00

Scow, skiff, etc.	100.00
Engineering, Superintendency & Incidentals	25,000.00
Total cost	$413,308.32
We place the present cash value of the Canal system at	$335,456.62

1870 *Maintenance.*

We submit the following items of annual expenses, for maintenance of the above mentioned canal:

Salaries, Superintendent, Secretary, Bookkeeper and Section Men	$10,300.00
Taxes—approximate	7,000.00
Office rent	300.00
Printing and stationary	175.00
Chaining canal 3 times per year	1,300.00
Horse feed and subsistence	3,000.00
Repairs	1,000.00
Pro rata per annum, on horses, wagons & tools	150.00
Telephone repairs	25.00
Total	$30,250.00

1871 DEFENDANTS' (WATER CONSUMERS') "EXHIBIT 4, N. E. L."

Estimated Cost and Present Cash Value of the Property of the San Joaquin and Kings River Canal and Irrigation Company.

Reported by Chas. E. Sloan and Burton Smith, Modesto, California, June 24" 1907.

1872 *Recapitulation.*

2,872,109 ft. B. M. in place, total cost	$133,813.56
Deterioration	47,849.70
Present value	$85,963.86
3,446,218 cu. yds. earth work, total cost	$238,092.76
300,000 yds. silt at 10c. per yd.	30,000.00
Present value	$208,092.76
Present Value Lumber	$85,963.86
" " Earthwork	208,092.76
Total	**$295,192.42**

1873 *Summary.*

Earthwork	$208,092.76
Lumber	85,963.86
Telephone 85 miles	4,000.00
Station buildings	4,000.00
Dredger	6,400.00
Scrapers, plows, tools	400.00
Harness, wagons, horses	1,500.00
Scow and skiff, etc	100.00
Enginering, Suptcy., etc	25,000.00
Total	$335,456.62

1874 *Maintenance.*

Salaries, Superintendent, Secretary & Section Men	$8,500.00
Office rent	300.00
Printing and stationery	175.00
Bookkeeper per year	1,800.00
Cleaning canal 3 times a year	1,300.00
Horse feed	1,000.00
Subsistence	2,000.00
Repairs	1,000.00
Pro rata per annum on horses, tools & wagons	150.00
Taxes approximate	7,000.00
Total	$30,225.00

1875 (Following is a transcript of "Defendants' Exhibit O" referred to on page 699 of the transcript:)

DEFENDANTS' EXHIBIT O.

Statement of Maintenance Account of the S. J. & K. R. C. & I. Co., Inc., from 1895 *to* 1906, *Inclusive.*

Omitting cost of litigation as to water rates.

1895:

General Expense	$747.02
Horses and Feed	1,259.59
Tools and Machinery	41.05
Subsistence	1,656.41
Lumber and Piles	529.52
Household Furniture	16.80
Instruments and Office Furniture	22.50
Telephone Expense	88.14
Office Rent	480.00
Vehicles and Harness	148.13

Legal Expenses	236.00		
Taxes	2,576.31		
Salaries	4,750.00		
Expense S. F. Office	312.93		
Labor	4,186.83		
Repairs of Headworks	2,775.35		
Injunction Suit	1,804.50		
		$21,631.08	$21,631.08
1896:			
General Expense	578.82		
Tools and Machinery	1.86		
Subsistence	1,647.11		
Lumber and Piles	1,923.10		
1876 Household Furniture	34.80		
Instruments and Office Furniture	52.92		
Telephone Expense	8.91		
Office Rent	480.00		
Vehicles and Harness	257.19		
Legal Expenses	18.70		
Salaries	4,500.00		
Labor	4,254.75		
Horses and Feed	1,342.22		
Expenses S. F. Office	285.62		
Taxes	2,771.33		
Water Rate Contest	1,143.18		
Repairs to Headworks	2,311.59		
Injunction Suit	1,707.75		
		$23,319.85	$22,176.67
1897:			
Subsistence	1,657.45		
Horses and Feed	1,823.73		
Vehicles and Harness	297.81		
Tools and Machinery	177.67		
Household Furniture	10.30		
Instruments and Office Furniture	.....		
General Expense	689.06		
Telephone	47.49		
Lumber and Piles	706.38		
Labor	4,273.56		
Salaries	4,750.00		
Repairs to Headworks	1,054.98		
Water Rate Contest	41.25		
Injunction Suit	502.40		
Expense S. F. Office	185.22		
Taxes	2,778.07		
1877 Legal Expense	550.00		
Office Rent	440.00		
		$19,985.37	$19,944.12

1898:			
Subsistence	$2,567.20		
Horses and Feed	3,255.91		
Vehicles and Harness	329.09		
Tools and Machinery	182.45		
Household Furniture	23.33		
General Expense	640.21		
Telephone Instruments and Expense	68.62		
Instruments and Office Furniture	8.50		
Lumber	1,092.92		
Labor	6,406.25		
Salaries	4,750.00		
Repairs to Headworks	84.30		
Taxes	2,878.57		
Expense S. F. Office	342.21		
Office Rent	320.00		
Legal Expense	5,551.27		
Injunction Suit	9.10		
Company vs. Enterprise L. & C. Co.	1,016.58		
		$29,526.51	$29,526.51
1899:			
Subsistence	2,582.40		
Horses and Feed	3,088.83		
Vehicles and Harness	357.73		
Tools and Machinery	433.94		
Household Furniture	54.23		
General Expense	1,154.64		
Telephone Instruments and Expense	23.30		
Instruments and Office Furniture	1.50		
1878 Lumber and Piles	1,445.16		
Labor	6,363.63		
Salaries	5,420.00		
Taxes	3,383.64		
Expenses S. F. Office	391.62		
Office Rent	320.00		
Legal Expense	1,021.85		
Injunction Suit	93.50		
Company vs. Stanislaus Co.	4,426.70		
		$30,526.67	$26,136.60
1900:			
Subsistence	$1,903.39		
Horses and Feed	3,254.01		
Vehicles and Harness	293.27		
Tools and Machinery	5.05		
Household Furniture	26.95		

General Expense	941.74		
Telephone Expense	167.28		
Instruments and Office Furniture	60.00		
Lumber and Piles	867.79		
Labor	5,124.93		
Cleaning Parallel Canal	13,252.44		
Salaries	5,507.00		
Taxes	4,109.62		
Expense S. F. Office	215.73		
Office Rent	320.00		
Legal Expense. Company vs. Stanislaus County	1,286.78		
		$37,335.98	$36,049.20

(These items could not be restored by chemist, so lumped together to make total.)

1901:

	Subsistence	$1,639.72	
1879	Horses and Feed	1,555.68	
	Vehicles and Harness	460.68	
Tools and Machinery		187.01	
Household Furniture		16.30	
General Expense		349.69	
Telephone Expense		318.83	
Instruments and Office Furniture		3.25	
Lumber and Piles		707.25	
Labor		5,339.02	
Cleaning Parallel Canal		329.50	
Salaries		5,500.00	
Taxes		3,886.15	
Expenses S. F. Office		237.55	
Office Rent		320.00	
Legal Expenses		2,977.30	
Company vs. Stanislaus Co.		7,105.00	
		$30,933.15	$23,828.13

1902:

Subsistence	$1,861.98	
Horses and Feed	1,243.49	
Vehicles and Harness	546.05	
Tools and Machinery	281.76	
General Expenses	1,246.43	
Telephone Instru. and Exp.	51.44	
Lumber and Piles	1,039.45	
Labor	6,538.25	
Cleaning Canal	277.55	
Salary	5,403.33	
Taxes	5,478.43	

Expense S. F. Office	294.59		
Rent, Office	320.00		
Legal Expense	1,609.25		
Company vs. Stanislaus Co.	1,046.60		
1880 Dredge Operating and Maintenance	265.93		
		$27,504.53	$26,457.93
1903:			
Tools and Machinery	$256.11		
Subsistence	2,658.88		
Horses and Feed	2,325.96		
Telephone Instru. and Exp.	273.33		
Vehicles and Harness	390.43		
General Expense	1,916.41		
Lumber and Piles	2,210.33		
Repairs and Headworks	3,154.91		
Labor	8,877.06		
Taxes	4,318.04		
Salaries	5,640.00		
Expenses S. F. Office	270.13		
Office Rent	320.00		
Cleaning Canal	460.50		
Legal Expenses	15,891.95		
Company vs. Stanislaus Co.	1,077.45		
Dredge Operating and Maintenance	1,406.14		
		$51,359.63	$50,282.18
1904:			
Dredge Construction—Depreciation	$1,054.82		
Horses and Feed	3,706.73		
General Expenses	2,527.66		
Household Furniture	100.55		
Instruments and Office Furniture	107.63		
Lumber and Piles	1,254.27		
Subsistence	3,777.46		
Telephone Instru. and Exp.	151.76		
Tools and Machinery.	294.22		
1881 Vehicles and Harness.	973.91		
Cleaning Canal	850.34		
Dredge Oper. and Maintenance	6,941.36		
Expenses S. F. Office	594.05		
Labor	9,902.39		
Legal Expense	13,400.00		
Company vs. Stanislaus Co.	4,246.34		
Water Rate Contest	5,807.37		
Company vs. F. F. & I. Co.	750.00		

Remodeling Measuring Boxes	5,069.79		
Repairs to Headworks	2,691.91		
Salaries	6,420.00		
Surveys and Plat Books	1,670.36		
Taxes	6,815.93		
Rent S. F. Office	230.00		
		$79,229.05	$74,982.71
1905:			
General Expense	$3,118.48		
Horses and Feed	3,805.94		
Household Furniture	194.59		
Instru. and Office Furniture	31.51		
Lumber and Piles	1,045.22		
Subsistence	4,640.33		
Telephone Inst. and Exp	310.51		
Tools and Machinery	326.69		
Vehicles and Harness	580.48		
Canal Cleaning	3,490.49		
Drain Syphon	599.82		
Dredge Operating	6,589.98		
Drop Weir D. F. Canal	590.85		
Expense S. F. Office	971.24		
Labor	12,078.04		
Legal Expenses	19,245.49		
Remodeling Gates	13,813.58		
1882 Rent	200.50		
Rent S. F. Office	320.00		
Repairs to Headworks	36.22		
Salaries	6,838.94		
Taxes	6,927.23		
Water Rate Contest	6.75		
Weir on Main Canal	1,771.10		
		$87,533.98	$87,527.23
1906:			
Canal Cleaning	$13,747.14		
Samage Claims	631.34		
Drain Syphon	366.38		
Dredge Operating	6,673.27		
General Expense	1,878.35		
Expense S. F. Office	998.02		
Rent S. F. Office	320.00		
Horses and Feed	3,858.73		
Household Furniture	319.68		
Labor	13,242.81		
Legal Expenses	21,144.90		
Lumber and Piles	1,704.55		
Repairs to Headworks	764.59		
Salaries	6,385.00		
Subsistence	5,378.63		

Taxes	8,085.69		
Telephone Inst. and Exp...	311.55		
Vehicles and Harness.....	386.39		
Measuring Boxes.....	240.48		
Water Rate Contest.....	1,232.25		
		$87,669.75	$86,437.50
		$526,591.53	$504,979.86

1883 DEF'TS' EXHIBIT P.

Statement of Cases in which The San Joaquin & Kings River Canal and Irrigation Company, Incorporated, is Interested.

1. Miller & Lux and The San Joaquin & Kings River Canal & Irrigation Company v. Enterprise Canal & Land Company, Jefferson C. James, et al.:

This action was brought in the Superior Court of Fresno County by the Canal Company and Miller & Lux to enjoin the Enterprise Canal & Land Company from taking out water from the San Joaquin River above the head of The San Joaquin & Kings River Canal & Irrigation Company's canal to be conveyed through the so-called Enterprise Canal on to land belonging to Jefferson G. James situated on Fresno Slough. The case was tried and a judgment entered in favor of Miller & Lux enjoining the diversion, but refusing any relief to the Canal Company, on the ground that the dam maintained by the San Joaquin & Kings River Canal & Irrigation Company was a public nuisance.

The judgment in favor of Miller & Lux was affirmed by the Supreme Court. (See Miller & Lux v. Enterprise Canal & Land Co., 145 Cal. 652.)

From the judgment against the Canal Company an appeal was taken, and that part of the judgment was reversed and the trial court was directed to enter a judgment in favor of the Canal Company and against the defendants. (See Miller & Lux v. Enterprise Canal & Land Co., 142 Cal. 208.)

A new trial however was subsequently granted to the defendants and an appeal was taken from the order granting a new trial,
1884 and this order was affirmed on appeal. (See Miller & Lux v. Enterprise Canal & Land Co., 145 Cal. 652.) Nothing further has been done in the case since that time.

2. The San Joaquin & Kings River Canal & Irrigation Company vs. Fresno Flume & Irrigation Company:

This was an action brought in the Superior Court of Madera County to enjoin the Fresno Flume & Irrigation Company from diverting water from one of the upper tributaries of the San Joaquin River. A like suit was brought by Miller & Lux, and the two cases tried together, and in both of them judgments were rendered in favor of the defendant. An appeal has been taken on both of these cases, and is now pending in the Supreme Court.

3. California Pastoral & Agricultural Co. v. Miller & Lux & The San Joaquin & Kings River Canal & Irrigation Company.

This suit was brought by the California Pastoral & Agricultural Company in the United States Circuit Court of the Southern District of California, Northern Division, to enjoin the Canal Company from diverting part of the water to which it was entitled through the Columbia Canal on the east side of the San Joaquin River. The Canal Company and Miller & Lux both answered, and Miller & Lux also filed a cross-complaint against the California Pastoral & Agricultural Co. for the purpose of having the contracts between the parties construed, so as to permit Miller & Lux to divert *its* share of the water in what is known as the Chowchilla Canal from any point therein at which it may desire to divert the same.

1885 The case was tried and resulted in a judgment in favor of the defendants Miller & Lux and the Canal Company, so far as the relief asked by the complainant was concerned, but denying Miller & Lux the relief asked by the cross complaint. No appeal was taken by the complainant from the part of the judgment in favor of the Canal Company, and therefore from that time on the Canal Company has had no further interest in the case, except for the purpose of having the judgment modified in regard to the costs. Miller & Lux, however, did take an appeal from the part of the judgment which was adverse to it to the United States Circuit Court of Appeals, and that court reversed the part of the judgment which was against Miller & Lux, and directed that a judgment be entered in favor of Miller & Lux on the cross complaint, and also directed the court to make a proper order in regard to costs.

The costs of the case in the lower court were divided equally between Miller & Lux and the Canal Company, and the costs on the appeal were inadvertently charged in the same manner, but when it was discovered that this *has* been done and that the Canal Company only had a small interest in the appeal, Miller & Lux paid the entire cost of the appeal.

4. Miller & Lux & The S. J. & K. R. C. & I. Co. vs. Borland:

This suit was brought in Fresno County to prevent the Borlands from pumping water from the San Joaquin River backed into Fresno Slough. The case was tried and judgment entered in favor of the Borlands and against the plaintiffs, and in order to

1886 avoid the effect of this judgment Mr. Miller formed the Borland Land Company, purchased the Borland lands, and then entered into an agreement with the Canal Company recognizing its right to divert water from the river, and the canal company contributed $9,000.— toward the purchase of the land.

5. Turner Estate v. Borland:—

This suit was brought in Merced County by the Turner Estate owning certain riparian lands on the San Joaquin River below the head of the S. J. & K. R. C. & I. Co.'s canal, for the purpose of enjoining the same pumping by the Borlands from Fresno Slough, and was brought by the Turner Estate on behalf of Miller & Lux and the Canal Company and settled in the same manner as the other suit against the Borlands.

6. Turner Estate vs. James and Enterprise Canal & Land Co.:

This suit was brought by the Turner Estate in the Superior Court of Merced county to enjoin James and the Enterprise Canal & Land Company from diverting water from the San Joaquin River above the canal of the S. J. & K. R. C. & I. Co. The Turner Estate based its rights upon the ownership of certain riparian land below that canal. The suit was brought at the request of Miller & Lux and The San Joaquin & Kings River Canal & Irrigation Company and prosecuted entirely by Miller & Lux and the San Joaquin & Kings River Canal & Irrigation Company. A judgment was entered by the Superior Court in favor of the plaintiff enjoining the diversion by the defendants. From this judgment an appeal was taken
1887 to the Supreme Court of the State of California and that judgment has been reversed.

7. Miller & Lux vs. Stevenson:

In the case brought by Stevenson against The San Joaquin & Kings River Canal & Irrigation Company the right of the Canal Company to divert water from the river for use upon riparian lands was not determined, and shortly after that decision Miller & Lux brought an action against Stevenson to determine the relative amount of water which the riparian land of Miller & Lux was entitled to. As the only purpose of this suit was to protect the Canal Company from the attacks of Stevenson, two-thirds of the expense of this litigation was borne by the Canal Company and one-third by Miller & Lux.

8. California Pastoral & Agricultural Co. v. Borland:—

This suit was brought by the California Pastoral & Agricultural Company, the owner of riparian lands on the San Joaquin River above and below the canal of the plaintiff herein to enjoin the Borlands from using water from the San Joaquin River or from Fresno Slough above said canal. The suit was brought in the United States Circuit Court of the Southern District of California, and was brought at the request of Miller & Lux and the Canal Company. A preliminary injunction was issued in the case enjoining the diversion of water from the defendants, and this injunction is still in force.

1888 Turner Estate vs. East Side Canal & Irrigation Co.:—

This suit was brought by the Turner Estate at the request of Miller & Lux and The San Joaquin & Kings River Canal & Irrigation Company in the Superior Court of Merced County against the East Side Canal & Irrigation Company, which is owned by J. J. Stevenson, to determine the amount of water which the defendant was entitled to divert from the San Joaquin River. The canal of the East Side Canal & Irrigation Company is situated below the canal of the complainant herein, and the land of the Turner Estate is situated below the East Side Canal. This suit was brought at the request of the complainant herein and Miller & Lux and was in the nature of a back-fire suit to counteract the suit brought by Stevenson against the Canal Company. No decision in the case has yet been rendered.

1889 *Water Rate Case.*

The charges made under this heading are for the case of San Joaquin & Kings River Canal & Irrigation Co. Incorporated v. the counties of Stanislaus, Merced and Fresno, brought in the Superior Court of Fresno County for the purpose of setting aside the Stanislaus rate of 1896 and the Merced and Fresno rates of 1904. A demurrer to the complaint was sustained on the ground that application must first be made to the authorities of Stanislaus County to change the rate and a judgment in favor of the defendants on the same ground was affirmed by the Supreme Court of California.

Endorsed: No. 14554. In U. S. Circuit Court Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit P. E. H. Heacock, Master etc. Filed May 14 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1890 DEFENDANTS' EXHIBIT Q.

Articles of Incorporation of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated.

We, the undersigned, do hereby voluntarily associate ourselves into a corporation under the name and style of "The San Joaquin and Kings River Canal and Irrigation Company, Incorporated," and do hereby agree with each other and do certify and declare as follows:

1. That the name of said corporation shall be "The San Joaquin and Kings River Canal and Irrigation Company, Incorporated";

2. That its principal office or place of business is to be located at 116 N. Carson Street, Carson City, Ormsby County, State of Nevada; and the resident agent therein and in charge thereof is the State Agent and Transfer Syndicate, Incorporated; but an office may be maintained at number 508 California Street, in the City and County of San Francisco, State of California, or at such other place or places as may be named by its Board of Trustees, or as may be fixed by the by-laws of said corporation;

3. That the object and purpose for which said corporation is formed, and the nature of the business to be transacted by it, are as follows: The construction of canals in the State of California, leading from the San Joaquin River and King's River, and their tributaries; also from Tulare Lake and streams flowing thereunto, and other waters, for the transportation of passengers and freights, and for the purpose of irrigation and water power, and for the conveyance of water for mining and manufacturing purposes. Also, the supplying of cities and towns in the State of California and
1891 the inhabitants of such cities and towns with pure and fresh water. Also the buying and selling of real estate;

4. That the amount of the capital stock of said corporation shall be One Million Dollars ($1,000,000), divided into One Hundred Thousand (100,000) shares of the par value of Ten Dollars ($10) each; and that the amount of its subscribed capital stock, with which it will commence business, is the sum of Seventy Dollars ($70), all of which has been actually subscribed and actually paid up;

5. That the names of each of the original subscribers to the capital stock of said corporation, and the amount subscribed by each, are as follows:

Henry Miller	one share	$10.00
Thomas B. Bishop	one share	$10.00
J. Leroy Nickel	one share	$10.00
Edward T. Allen	one share	$10.00
Louis F. Monteagle	one share	$10.00
W. H. Talbot	one share	$10.00
J. E. Bell	one share	$10.00

6. That the period limited for the duration of the existence of said corporation is sixteen (16) years;

7. That the governing board of said corporation shall consist of seven (7) members, who shall be styled directors.

In witness whereof, we, the said incorporators, have hereunto set our hands, this 12th day of June, 1905.

HENRY MILLER.
THOMAS B. BISHOP.
J. LEROY NICKEL.
EDWARD T. ALLEN.
LOUIS F. MONTEAGLE.
W. H. TALBOT.
J. E. BELL.

1892 STATE OF CALIFORNIA,
City and County of San Francisco, ss:

On this twelfth day of June, in the year one thousand nine hundred and five, before me, George T. Knox, a Commissioner of Deeds, appointed by the government of the State of Nevada for the State of California, residing in said City and County, and duly commissioned and sworn, personally appeared Henry Miller, Thomas B. Bishop, J. Leroy Nickel, Edward T. Allen, Louis F. Monteagle, W. H. Talbot, and J. E. Bell, known to me to be the persons described in, whose names are subscribed to and who executed the within instrument, and who acknowledged to me that they executed the same freely and voluntarily and for the uses and purposes therein mentioned.

In witness whereof, I have hereunto set my hand and affixed my official seal, at my office, in the said City and County of San Francisco, the day and year in this certificate first above written.

[SEAL.] GEORGE T. KNOX,
Commissioner of Deeds for the State of Nevada.

STATE OF NEVADA,
County of Ormsby, ss:

I, H. B. Van Etten, County Clerk of Ormsby County, State of Nevada, and ex-officio Clerk of the District Court, in and for the county of Ormsby, do hereby certify that the foregoing is a full, true and correct copy of the original articles of incorporation of "The San Joaquin and Kings River Canal and Irrigation Company, Incorporated," which now remains on file and of record in my
1893 office in Carson City, in said county.

In testimony whereof, I have hereunto set my hand and affixed my Official Seal, at Carson City, in said County and State this 13 day of June A. D. 1905.

[SEAL.] H. B. VAN ETTEN, *Clerk.*

STATE OF NEVADA,
Department of State, ss:

I, W. G. Douglass, the duly elected, qualified and acting Secretary of State of the State of Nevada, do hereby certify that the foregoing is a true, full and correct copy of the original certified copy of Articles of Incorporation of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, now on file and of record in this office.

In witness whereof, I have hereunto set my hand and affixed the Great Seal of State, at my office, in Carson City, Nevada, this 13th day of June, A. D. 1905.

[SEAL.] W. G. DOUGLASS,
Secretary of State.
By J. W. LEGATE, *Deputy.*

(Endorsed:) Articles of Incorporation of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated. Filed Jun- 13 1905. H. B. Van Etten, Clerk. Filed Jun- 13 1905. W. G. Douglass, Secretary of State. By J. W. Legate, Deputy. No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit Q. B. H. H., Master, etc. Filed May 14, 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1894 DEFENDANTS' EXHIBIT Q-*a*.

Be it resolved by the Board of Directors of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, a corporation under the laws of the State of Nevada, that in the articles of incorporation of said corporation an error exists, to wit: The said articles of incorporation state, in paragraph 5 thereof, that the amount subscribed by each of the original subscribers to the capital stock of said corporation is one share of the par value of $10.00 each, and in paragraph 4 thereof that the amount of the subscribed capital stock of said corporation with which it will commence busines

is the sum of $70.00; whereas in fact each of said original subscribers subscribed for twenty shares of said capital stock of the par value of $10.00 each, and the amount of said subscribed capital stock with which said corporation will commence business is the sum of $1,400.00; and this corporation therefore desires to correct said error.

Therefore to correct said error it is hereby resolved that paragraph 4 and 5 of said articles of incorporation be amended so as to read as follows:

"4. That the amount of the capital stock of said corporation shall be One Million Dollars ($1,000,000), divided into One Hundred Thousand (100,000) shares of the par value of Ten Dollars ($10) each; and that the amount of its subscribed capital stock, with which it will commence business, is the sum of Fourteen Hundred Dollars ($1,400), all of which has been actually subscribed and actually paid up;

"5. That the names of each of the original subscribers to the capital stock of said corporation, and the amount subscribed by each, are as follows:

1895	Henry Miller	twenty shares	$200.00
	Thomas B. Bisohp	twenty shares	$200.00
	J. Leroy Nickel	twenty shares	$200.00
	Edward T. Allen	twenty shares	$200.00
	Louis F. Monteagle	twenty shares	$200.00
	W. H. Talbot	twenty shares	$200.00
	J. E. Bell	twenty shares	$200.00

We, the undersigned, the president and secretary of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, a corporation under the laws of the State of Nevada, do hereby certify that the foregoing resolutions were duly adopted by the Board of Directors of said corporation at a meeting of said Board duly and regularly had on the 14th day of June, 1905.

[SEAL.]

HENRY MILLER, *President.*
C. Z. MERRITT, *Secretary.*

We, the undersigned, being all of the incorporators of the above named corporation, and being all of the stockholders of said corporation, have assented and do hereby assent to the foregoing resolutions of the Board of Directors of said corporation, and to the amendments therein contained of the articles of incorporation of said corporation.

June 14, 1905.

HENRY MILLER.
THOMAS B. BISHOP.
J. LEROY NICKEL.
EDWARD T. ALLEN.
LOUIS F. MONTEAGLE.
W. H. TALBOT.
J. E. BELL.

1896 STATE OF CALIFORNIA,
City and County of San Francisco:

I, Geo. T. Knox, a Commissioner of Deeds for the State of Nevada in the State of California, residing at the City and County of San Francisco, duly commissioned and qualified, do hereby certify that on the 14 day of June, in the year of our Lord one thousand nine hundred and five before me personally appeared Henry Miller and C. Z. Merritt, President and Secretary respectively of The San Joaquin & Kings River Canal & Irrigation Company Incorporated known to me to be the individuals described in, whose names are subscribed to and who executed the annexed instrument, and they acknowledged to me that they executed the same as their act and deed, freely and voluntarily, and for the uses and purposes therein mentioned, as President and Secretary as aforesaid.

In witness whereof, I have hereunto set my hand and affixed my official seal at my office in said City and County of San Francisco, the day and year last above written.

[SEAL.] GEO. T. KNOX,
Commissioner of Deeds for State of Nevada in California at San Francisco.

STATE OF CALIFORNIA,
City and County of San Francisco:

I, Geo. T. Knox, a Commissioner of Deeds for the State of Nevada in the State of California, residing at the City and County of San Francisco, duly commissioned and qualified, do hereby certify that on the fourteenth day of June, in the year of our Lord one thousand nine hundred and five before me personally appeared Henry Miller, Thomas B. Bishop, J. Leroy Nickel, Edward T. Allen, Louis F. Monteagle, W. H. Talbot & J. E. Bell, known to me to be the individuals described in, whose names are subscribed to and who
1897 executed the annexed instrument, and they acknowledged to me that they executed the same as their act and deed, freely and voluntarily, and for the uses and purposes therein mentioned.

In witness whereof, I have hereunto set my hand and affixed my official seal at my office in said City and County of San Francisco, the day and year last above written.

[SEAL.] GEO. T. KNOX,
Commissioner of Deeds for State of Nevada in California at San Francisco.

STATE OF NEVADA,
Department of State, ss:

I, W. G. Douglass, the duly elected, qualified and acting Secretary of State of the State of Nevada, do hereby certify that the foregoing is a true, full and correct copy of the original Amended Articles of Incorporation of The San Joaquin and Kings River Canal and Irrigation Company Incorporated now on file and of record in this office.

In witness whereof, I have hereunto set my hand and affixed the Great Seal of State, at my office, in Carson City, Nevada, this 16 day of June A. D. 1905.

[SEAL.]

W. G. DOUGLASS,
Secretary of State.
By J. W. LEGATE, *Deputy.*

(Endorsed:) Certificate of Amendment of Articles of Incorporation of The San Joaquin and Kings River Canal and Irrigation Company, Incorporated. Filed Jun- 16 1905. W. G. Douglass, Secretary of State, By J. W. Legate, Deputy. No. 14554. In U. S. Circuit Court. Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit Q-*a*. E. H. H., Master, etc. Filed May 14 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1898 No. 14554. In U. S. Circuit Court, Northern District of California. The San Joaquin and K. R. C. & I. Co. vs. The County of Stanislaus, et al. Def'ts' Exhibit R. E. H. H., Master, etc. Report of H. H. Henderson Hydraulic Engineer as to Value of Earth Work and Structures of the San Joaquin & K. R. C. & I. Co.'s Canals. Filed May 14 1910. Southard Hoffman, Clerk, By J. A. Schaertzer, Deputy Clerk.

1899 *Estimate of Value of the San Joaquin & Kings River Canal & Irrigation Company's Canal, Fresno County, California.*

Total present value of structures	$53,850.50
Total present value of earthwork	88,395.40
Engineering & supervision 10%	17,084.00
Contingencies 10%	17,084.00
Total value	$176,413.90

Estimate of Total Value.

Total value of Fresno County	$176,413.90
Total value of Merced County	218,174.20
Total value of Stanislaus County	20,818.30
Estimate of total value	$415,405.40

1900 Excavation, China Slough, Fresno County.

Sta. 0-00–78-00. 8268 Cu. yds. @ 07@	$578.76

Spillways.

No. 1 Length 4,381 ft. 15,333 yds. @ .07¢	1,073.30
No. 2 Length 5,865 ft. 18,890 yds. @ .07¢	1,322.30
No. 3 Length 5732 ft. 18,056 yds. @ .07¢	1,263.90
	$3,659.50

Gates in Spillway No. 1.

Sta. 24–30.

Gates in Spillway No. 2.

Gates in Spillway No. 3.

Width 16 feet. Depth 72 Inches. Length 24 feet. Dep. 20%.

Lumber 6984 ft. cost 380.70 Dep. 20% $76.20

5 gates @ 380.70 ..... $1,903.50 $381.00

Earthwork.

Main Canal, Fresno. County.

Sta.	0–00–	46–00	end of cut	8,869	yards
Sta.	46–00–	100–00	along slough		
			dredger	28,155	"
			old bank	20,936	"
Sta.	46–00–	188–40	.....	38,604	"
				96,564	
Sta.	188–40–	275–39	.....	54,820	
Sta.	275–39–	287–57	.....	9,501	"
Sta.	287–57–	310–00	.....	21,886	
Sta.	310–00–	329–19	.....	26,298	"
Sta.	329–19–	352–00	.....	14,526	"
Sta.	352–00–	410–00	.....	21,982	
Sta.	410–00–	451–63	.....	18,884	
	451–63–	501–05	.....	27,126	
Sta.	501–05–	529–71	.....	17,882	

1900½

Sta.	529–71–	578–48	.....	29,730	yds.
Sta.	578–48–	610–00	.....	23,463	
Sta.	610–00–	630–00	.....	16,901	"
Sta.	630–00–	659–71	.....	20,192	"
Sta.	659–71–	700–00	.....	27,535	"
Sta.	700–00–	730–00	.....	11,097	"
Sta.	730–00–	751–82	.....	14,592	
Sta.	751–82–	810–00	.....	40,831	"
Sta.	810–00–	889–95	.....	49,308	"
Sta.	889–95–	960–05	.....	54,478	"
Sta.	960–05–	1047–27	.....	54,006	"
Sta.	1047–27–	119–47	.....	45,332	
Sta.	1119–47–	1126–00	.....	4,097	"
			Total in Main Canal Fresno Co.	701,031	yds.

701,031 yds. @ .05¢ $35,051.55

Outside Canal, Fresno County.

Sta.	0–00– 160–00	116,090	yards
Sta.	160–00– 340–00	118,674	"
Sta.	340–00– 460–00	74,520	"
Sta.	460–00– 700–00	152,088	"
Sta.	700–00– 853–18	97,300	"
Sta.	853–18–1002–00	69,261	"
	Total in outside canal, Fresno County	625,933	"

625,933 yards @ .05¢ $31,296.70

Dos Palos Canal, Fresno County.

Sta.	0–00– 102–50	37,207	yards
Sta.	102–50– 257–00	54,832	"
Sta.	257–00– 469–50	88,804	"
	Total in Dos Palos Canal, Fresno Co.	180,843	"

180,843 yds. @ .07¢ $12,659.00

Sideditch Outside Canal, Fresno County.

Sta.	0–00– 160–00	12,246	yards
1901			
Sta.	160–00– 340–00	8,000	yards
Sta.	340–00– 460–00	11,555	"
Sta.	460–00– 700–00	22,260	"
Sta.	700–00– 853–18	10,022	"
Sta.	853–18–1002–00	9,287	"
	Total in sideditch, Fresno County	73,570	yards

73,570 yards @ .07¢ 5,149.90

Telephone Lines, Fresno County.

213 miles @ $115.00 per mile	$2,449.50	Dep. 30%
½ charged to Miller & Lux	1,224.75	
½ charged to the Canal Company	1.224.75	$367.20

1902 Head Works.

Lumber 559400" ft.	@	$25.00	per M	$13,985.00	Depreciation
Carpenter Work ..	@	5.00	" "	2,797.00	30%
Hauling	@	3.00	" "	1,777.00	
Iron	@	2.00	" "	1,118.00	
Nails	@	.30	" "	167.00	
Pile Driving 568..	@	1.50		842.00	
" Sheeting 1,398	@	1.00		1,398.00	

Special draw Estimated					1,200.00	
Fish ladder's "					350.00	
Blacksmithing "					500.00	
Pumping "					750.00	
Earthwork & Levee					3,000.00	
Engineering & Supervision 10%					3,000.00	
Interest & Depreciation on Tools					500.00	
Contingencies 10%					3,000.00	
					$34,384.00	$10,315.20

River Boom.

Lumber 400 ft., round	@	$.20	per	ft	80.00	
" 4,296 "	@	25.00	per	M	106.90	
Carpenter Work	@	7.00	"	"	30.00	
Hauling	@	3.00	"	"	12.90	
Chain 200 ft. ½"					35.00	
Bolts					5.00	
					$269.80	80.90

Spillway.

Lumber 11,704	@	$25.00	per	M	$292.60	60%
Carpenter Work	@	7.00	"	"	81.90	
Hauling	@	3.00	"	"	35.10	
Iron	@	2.00	"	"	23.40	
Nails	@	.30	"	"	3.50	
Earth Work					120.00	
					$556.50	$337.90

1903 Bulkhead.

Lumber 3,208 ft. ...	@	$25.00	per	M	$80.25	Depr'tion
Piles 37,740 ft.	@	.20	"	"	148.00	90%
Pile Driving 37	@	1.50			55.50	
Carpenter Work	@	7.50	"	"	22.40	
Hauling	@	3.00	"	"	9.60	
Iron	@	2.00	"	"	6.40	
Nails	@	.30	"	"	1.00	
Earth Work					25.00	
					$348.10	313.30

Protection Wings.

Lumber 1,720 ft.	@	.20			$344.00	90%
Pile driving 92	@	1.50			138.00	
Lumber 1,904 ft.	@	25.00	per	M	272.60	
Carpenter Work	@	7.00	"	"	76.30	
Hauling	@	3.00	"	"	32.70	
Iron	@	2.00	"	"	21.80	
Nails	@	.30	"	"	3.30	
Earth Work					25.00	
					$913.70	$822.33

Headgate.

Sta. 0. Width 26 ft. Depth 11 ft. 4″. Length 48 ft. 60%

Lumber 16,500 ft. .	@	$25.00	per M.	$412.50
Carpenter Work	@	7.00	" "	115.50
Hauling	@	3.00	" "	49.50
Iron	@	2.00	" "	33.00
Nails	@	.30	" "	4.00
Earth Work				120.00
				$734.50

$661.06

1904 *Main Canal Fresno County.*

Headgate.

Sta. 0–30. Width 30 ft. Depth 12 ft. Length 50. Depreciation. 10%

Lumber 18,500 ft. . .	@	$25.00	per M	$462.50
Carpenter Work . . .	@	7.00	" "	129.50
Hauling	@	3.00	" "	55.50
Iron	@	2.00	" "	37.00
Nails	@	.30	" "	5.50
Earth Work				120.00
				$810.00

$81.00

Sidegate.

Sta. 47–87. Width 20 ft. Depth 10 ft. Length 24 ft. 60%

Lumber 5,386 ft. . .	@	$25.00	per M	$134.60
Carpenter Work . .	@	7.00	" "	37.80
Hauling	@	3.00	" "	16.20
Iron	@	2.00	" "	10.80
Nails	@	.30	" "	1.60
Earth Work				25.00
				$226.00

$135.60

Sidegate.

Sta. ——. Width 6 ft. Depth 5 ft. Length 20 ft. 60%

Lumber 15,888	@	$25.00	per M	$59.70
Carpenter Work . .	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$104.40

$62.60

1905 Sidegate.

Sta. 74–64. Width 20 ft. Depth 9 ft. Length 24 ft. 60%

Lumber 7,617 ft. . . .	@	$25.00 per M	$190.40	
Carpenter Work . .	@	7.00 " "	47.60	
Hauling	@	3.00 " "	20.40	Obsolete
Iron	@	2.00 " "	13.60	
Nails	@	.30 " "	2.00	
Earth Work			25.00	
			$199.00	$119.40

Sidegate.

Sta. ——. Width 8 ft. Depth 54". Length 20 ft. 50%

Lumber 1,756 ft. . . .	@	$25.00 per M	$43.90	
Carpenter Work . .	@	7.00 " "	12.60	
Hauling	@	3.00 " "	5.40	Obsolete
Iron	@	2.00 " "	3.60	
Nails	@	.30 " "	.60	
Earth Work			25.00	
			$91.10	$45.50

Sidegate.

Sta. ——. Width 8 ft. Depth 54". Length 20 ft. 60%

Lumber 1,968 ft. . . .	@	$25.00 per M	$49.20	
Carpenter Work . .	@	7.00 " "	14.00	
auling	@	3.00 " "	6.00	Obsolete
Iron	@	2.00 " "	4.00	
Nails	@	.30 " "	.60	
Earth Work			25.00	
			$98.80	$59.30

1906 Bridge.

Sta. 133–70. Width 16 ft. Length 112 ft. 50%

Lumber 12,452 . . .	@	$25.00 per M	$311.40	
Carpenter Work . .	@	7.00 " "	87.50	
Hauling	@	3.00 " "	37.50	
Iron	@	2.00 " "	25.00	
Nails	@	.30 " "	3.70	
Earth Work			25.00	
			$490.10	$245.00

Weir.

Sta. 133–70. Width 24 ft. Depth 12 ft. Length 80 ft. 30%

Lumber 41,072 ft. .	@	$25.00 per M	$1,026.80	
Carpenter Work ..	@	7.00 " "	287.00	
Hauling	@	3.00 " "	123.00	
Iron	@	2.00 " "	82.00	
Nails	@	.30 " "	12.30	
Earth Work			120.00	
			$1651.10	$395.30

Weir.

Sta. 176–60. Helm Canal

Bridge.

Sta. 252–73. Width 18 *th.* Length 88 ft..

Lumber 11,465 ft. ..	@	$25.00 per M.	$286.30	
Carpenter Work ...	@	7.00 " "	80.50	
Hauling	@	3.00 " "	34.50	
Iron	@	2.00 " "	23.00	
Nails	@	.30 " "	3.50	
Earth Work			25.00	
			$452.80	$45.30

1907 **Sidegate.**

Sta. 253–40. Width 14 ft. Depth 78 ft. Length 18 ft. 40%

Lumber 2,596 ft.	@	$25.00 per M	$64.90	
Carpenter Work	@	7.00 " "	18.20	
Hauling	@	3.00 " "	7.80	Obsolete
Iron	@	2.00 " "	5.20	
Nails	@	.30 " "	.80	
Earth Work			25.00	
			$121.90	$48.76

Spillway.

Sta. 326–50. Width 26 ft. Depth 10 ft. 6″. Length 48 ft. 50%.

Lumber 18,500 ft. ..	@	$25.00 per M.	$462.50	
Carpenter Work	@	7.00 " "	129.50	
Hauling	@	3.00 " "	55.50	
Iron	@	2.00 " "	37.00	
Nails	@	.30 " "	5.60	
Earth Work			120.00	
			$809.50	$404.70

Sidegate.

Sta. 330–. 14″ Salt Glazed Pipe & Wooden Gate.

Estimated cost $75.

Sidegate.

Sta. 330–72. Width 24 ft. Depth 10 ft. Length 20 ft. 70%.

Lumber 6,745 Ft. ...	@	$25.00	per	M.	$168.60
Carpenter Work	@	7.00	"	"	46.90
Hauling	@	3.00	"	"	20.10
Iron	@	2.00	"	"	13.40
Nails	@	.30	"	"	2.00
Earth Work					25.00
					$276.00

$193.20

1908

Bridge.

Sta. 330–72. Width 16 ft. Length 24 ft. 60%

Lumber 2,328 ft.	@	$25.00	per	M.	$58.20
Carpenter Work	@	7.00	"	"	16.10
Hauling	@	3.00	"	"	6.90
Iron	@	2.00	"	"	4.60
Nails	@	.30	"	"	.70
Earth Work					25.00
					$111.50

$66.90

Weir.

Sta. 334–53. Width 26 *th*. Depth 11 ft. 8″. Length 50 ft. 20%.

Lumber 18,500 ft. ...	@	$25.00	per	M	$462.50
Carpenter Work	@	7.00	"	"	129.50
Hauling	@	3.00	"	"	55.50
Iron	@	2.00	"	"	37.00
Nails	@	.30	"	"	5.60
Earth Work					120.00
					$810.10

$162.00

Bridge.

Sta. 357–98. Width 16 ft. Length 76 ft. 30%

Lumber 7,654 ft.	@	$25.00	per	M.	$191.30
Carpenter Work	@	7.00	"	"	53.20
Hauling	@	3.00	"	"	23.00
Iron	@	2.00	"	"	15.20
Nails	@	.30	"	"	3.30
Earth Work					25.00
					$309.80

$92.90

1909 Bridge.

Sta. 372–38. Width 16 ft. Length 62 ft. 100%.

Lumber 6,686 ft.	@	$25.00	per	M.	$167.20
Carpenter Work	@	7.00	"	"	46.90
Hauling	@	3.00	"	"	20.10
Iron	@	2.00	"	"	13.40
Nails	@	.30	"	"	2.00
Earth Work					25.00
					$274.60

$274.60

Sidegate.

Sta. 383–17. Width —.
Obsolete.

Bridge & Gate.

Sta. 490–00. Of no value. 100%.

Sidegate.

Sta. 500–54. Width 60". Depth 48". Length 24 ft. 30%.

Lumber 1,263 ft.	@	$25.00	per	M	$31.60
Carpenter Work	@	7.00	"	"	9.10
Hauling	@	3.00	"	"	3.90
Iron	@	2.00	"	"	2.60
Nails	@	.30	"	"	.40
Earth Work					25.00
					$72.60

$21.80

1910 Sidegate.

Sta. 550–17. Width 10 ft. 6". Depth 5 ft. Length 24 ft. 30%.

Lumber 2,728 ft.	@	$25.00	per	M.	$68.20
Carpenter Work	@	7.00	"	"	18.90
Hauling	@	3.00	"	"	8.10
Iron	@	2.00	"	"	5.40
Nails	@	.30	"	"	.80
Earth Work					25.00
					$126.40

$37.92

Bridge.

Sta. 572–57. Width 16 ft. Length 62 ft. 40%

Lumber 6,216 ft.	@	$25.00	per	M.	$155.40
Carpenter Work	@	7.00	"	"	43.40
Hauling	@	3.00	"	"	18.60
Iron	@	2.00	"	"	12.40
Nails	@	.30	"	"	1.90
Earth Work					25.00
					$256.70

$102.70

Outside Canal Spillway.

Sta. 577–30.

Sidegate.

Sta. 579–37. Width 11 ft. 6". Depth 5 ft. Length 40 ft. 30%.

Lumber 3,524 ft.	@	25.00	per	M	$98.10
Carpenter Work	@	7.00	"	"	27.30
Hauling	@	3.00	"	"	11.70
Iron	@	2.00	"	"	7.80
Nails	@	.30	"	"	1.20
Earth Work					25.00
					$171.10

$51.30

1911

Weir.

Sta. 579–88. Width 20 ft. Depth 8 ft. Length 40 ft. 80%.

Lumber 12,914 ft.	@	$25.00	per	M	$322.80
Carpenter Work	@	7.00	"	"	90.30
Hauling	@	3.00	"	"	38.70
Iron	@	2.00	"	"	25.80
Nails	@	.30	"	"	3.90
Earth Work					120.00
					$601.50

$481.20

Weir.

Sta. 579–81. Width 24 ft. Depth 9 ft. Length 40 ft. 80%.

Lumber 13,870 ft.	@	$25.00	per	M	$346.70
Carpenter Work	@	7.00	"	"	97.30
Hauling	@	3.00	"	"	41.70
Iron	@	2.00	"	"	27.80
Nails	@	.30	"	"	4.10
Earth Work					120.00
					$637.60

$510.00

Sidegate.

Sta. 593–76. Width 7 ft. Depth 78". Length 28 ft. 40%.

Lumber 2,508 ft.	@	$25.00	per	M.	$62.70
Carpenter Work	@	7.00	"	"	17.50
Hauling	@	3.00	"	"	7.50
Iron	@	2.00	"	"	5.00
Nails	@	.30	"	"	.80
Earth Work					25.00
					$118.50

$47.00

1912 Sidegate.

Sta. 616+75. Width 8 ft. Depth 74". Length 36 ft. 30%.

Lumber 3,563 ft.	@	$25.00 per M	$97.30	
Carpenter Work	@	7.00 " "	27.30	
Hauling	@	3.00 " "	11.70	
Iron	@	2.00 " "	7.80	
Nails	@	.30 " "	1.20	
Earth Work			25.00	
			$170.30	$51.00

Sidegate.

Sta. 637+36. Width 6 ft. Depth 66". Length 35 ft. 30%.

Lumber 2,221 ft.	@	$25.00 per M	$55.50	
Carpenter Work	@	7.00 " "	15.40	
Hauling	@	3.00 " "	6.60	
Iron	@	2.00 " "	4.40	
Nails	@	.30 " "	.70	
Earth Work			25.00	
			$107.60	$32.35

Sidegate.

Sta. 666+30. Width 84". Depth 66". Length 33 ft. 30%.

Lumber 2,607 Ft	@	$25.00 per M	$65.20	
Carpenter Work	@	7.00 " "	18.20	
Hauling	@	3.00 " "	7.80	
Iron	@	2.00 " "	5.20	
Nails	@	.30 " "	.80	
Earth Work			25.00	
			$122.20	$36.60

1913 Bridge & Weir.

Sta. 679+90. Width 14 ft. Depth 8 ft. Length 30 ft. 80%.

Lumber 5,046 ft	@	$25.00 per M	$139.60	
Carpenter Work	@	7.00 " "	35.00	
Hauling	@	3.00 " "	15.00	
Iron	@	2.00 " "	10.00	
Nails	@	.30 " "	1.50	
Earth Work			25.00	
			$236.10	$188.90

Weir.

Sta. 679+90. Width 18 ft. Depth 9 ft. 6". Length 30 ft. 40%.

Lumber 12,500 ft	@	$25.00	per M	$312.50	
Carpenter Work	@	7.00	" "	87.50	
Hauling	@	3.00	" "	37.50	
Iron	@	2.00	" "	25.00	
Nails	@	.30	" "	3.80	
Earth Work				120.00	
				$586.30	$234.50

Sidegate.

Sta. +39. Width 6 ft. Depth 4 ft. Length 32 ft. 30%.

Lumber 1,890 ft.	@	$25.00	per M	$45.20	
Carpenter Work	@	7.00	" "	12.60	
Hauling	@	3.00	" "	5.40	
Iron	@	2.00	" "	3.60	
Nails	@	.30	" "	.60	
Earth Work				25.00	
				$92.40	$27.70

1914

Sidegate.

Sta. 722+02. Width 6 ft. Depth 66". Length 30 ft. 30%.

Lumber 2,271 ft	@	$25.00	per M	$56.70	
Carpenter Work	@	7.00	" "	16.10	
Hauling	@	3.00	" "	6.90	
Iron	@	2.00	" "	4.60	
Nails	@	.30	" "	.70	
Earth Work				25.00	
				$110.00	$33.00

Sidegate.

Sta. 734+77. Width 5 ft. Depth 6 ft. Length 28 ft. 30%.

Lumber 2,092 ft.	@	$25.00	per M	$52.30	
Carpenter Work	@	7.00	" "	14.70	
Hauling	@	3.00	" "	6.30	
Iron	@	2.00	" "	4.20	
Nails	@	.30	" "	.70	
Earth Work				25.00	
				$103.20	$30.30

Sidegate.

Sta. 749+51. Width 6 ft. Depth 58". Length 30 ft. 30%.

Lumber 2,044 ft.	@	$25.00 per M	$51.10	
Carpenter Work	@	7.00 " "	14.70	
Hauling	@	3.00 " "	6.30	
Iron	@	2.00 " "	4.20	
Nails	@	.30 " "	.70	
Earth Work			25.00	
			$102.00	$30.60

1915 **Gate.**

Sta. 750– In Center of Bank. Obsolete. 100%

Drain.

Sta. 751–71. Width 5 ft. Depth 4 ft. Length 32 ft. 40%.

Lumber 2,522 ft.	@	$25.00 per M	$63.10	
Carpenter work	@	7.00 " "	17.50	
Hauling	@	3.00 " "	7.50	
Iron	@	2.00 " "	5.00	
Nails	@	.30 " "	.80	
Earthwork			25.00	
			$118.90	$37.50

Bridge.

Sta. 752–59. Width 14 ft. Length 64 ft. 70%

Lumber 5,732 ft.	@	$25.00 per M	$143.30	
Carpenter work	@	7.00 " "	39.90	
Hauling	@	3.00 " "	17.10	
Iron	@	2.00 " "	11.40	
Nails	@	.30 " "	1.70	
Earthwork			25.00	
			$237.40	$166.20

Bridge & Weir.

Sta. 752–59. Width 22 ft. Length 40 ft. Depth 8 ft. 90%

Lumber 15,930 ft.	@	$25.00 per M	$398.20	
Carpenter Work	@	7.00 " "	111.30	
Hauling	@	3.00 " "	47.70	
Iron	@	2.00 " "	31.80	
Nails	@	.30 " "	4.80	
Earth Work			120.00	
			$713.80	$642.40

1916 Drain.

Sta. 756–61. Width 10 ft. Depth 4 ft. Length 12 ft. 50%

Lumber 1,029 ft.	@	$25.00	per	M	$25.70
Carpenter Work	@	7.00	"	"	7.70
Hauling	@	3.00	"	"	3.30
Iron	@	2.00	"	"	2.20
Nails	@	.30	"	"	.40
Earth Work					25.00
					$64.30 $32.10

Sidegate.

Sta. 758–86. Width 68". Depth 6 ft. Length 32 ft. 30%

Lumber 2,242 ft.	@	$25.00	per	M	$56.10
Carpenter Work	@	7.00	"	"	16.10
Hauling	@	3.00	"	"	6.90
Iron	@	2.00	"	"	4.60
Nails	@	.30	"	"	.70
Earth Work					25.00
					$109.40 $32.80

Sidegate.

Sta. 772–60. Width 70". Depth 92". Length 33 ft. 30%

Lumber 2,703 ft.	@	$25.00	per	M	$67.50
Carpenter Work	@	7.00	"	"	18.90
Hauling	@	3.00	"	"	8.10
Iron	@	2.00	"	"	5.40
Nails	@	.30	"	"	.80
Earth Work					25.00
					$125.70 $37.70

1917 Sidegate.

Sta. 786–70. Width 54". Depth 94". Length 34 ft. 30%

Lumber 2,778 ft.	@	$25.00	per	M	$69.50
Carpenter Work	@	7.00	"	"	19.60
Hauling	@	3.00	"	"	8.40
Iron	@	2.00	"	"	5.60
Nails	@	.30	"	"	.90
Earth Work					25.00
					$129.00 $38.70

Gate.

Sta. 799–77. Gate in Center Bank Obsolete. 100%

Sidegate.

Sta. 799–81. Width 6 ft. Depth 6 ft. Length 34 ft. 30%

Lumber 2,256 ft.	@	$25.00	per M	$63.20
Carpenter Work	@	7.00	" "	17.50
Hauling	@	3.00	" "	7.50
Iron	@	2.00	" "	5.00
Nails	@	.30	" "	.80
Earth Work				25.00
				$119.00 $35.70

Sidegate.

Sta. 826–67. Width 80". Depth 108". Length 34 ft. 40%

Lumber 3,688 ft.	@	$25.00	per M	$92.20
Carpenter Work	@	7.00	" "	25.90
Hauling	@	3.00	" "	11.10
Iron	@	2.00	" "	7.40
Nails	@	.30	" "	1.10
Earth Work				25.00
				$162.70 $65.00

1918 Sidegate.

Sta. 854–08. Width 6 ft. Depth 5 ft. Length 32 ft. 30%

Lumber 2,112 ft.	@	$25.00	per M	$53.80
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.70
Earth Work				25.00
				$104.70 $31.40

Sidegate.

Sta. 867–89. Width 78". Depth 94". Length 30 ft. 30%

Lumber 2,952 ft.	@	$25.00	per M	$73.80
Carpenter Work	@	7.00	" "	21.00
Hauling	@	3.00	" "	9.00
Iron	@	2.00	" "	6.00
Nails	@	.30	" "	.90
Earth Work				25.00
				$135.70 $40.70

Sidegate.

Sta. 882–17. Width 76″. Depth 84″. Length 28 ft. 40%

Lumber 2,573	@	$25.00	per M	$64.30
Carpenter Work	@	7.00	" "	18.20
Hauling	@	3.00	" "	7.80
Iron	@	2.00	" "	5.20
Nails	@	.30	" "	.80
Earth Work				25.00
				$121.30

$48.50

1919

Gate.

Sta. 882–68. Gate in Center Bank Obsolete. 100%

Weir.

Sta. 883–68. Width 24 ft. Depth 7 ft. 6″. Length 40 ft. 80%

Lumber 12,648 ft.	@	$25.00	per M	$316.20
Carpenter Work	@	7.00	" "	88.90
Hauling	@	3.00	" "	38.10
Iron	@	2.00	" "	25.40
Nails	@	.30	" "	3.80
Earth Work				120.00
				$592.40

$473.90

Weir.

Sta. 883–68. Width 20 ft. Depth 8 ft. 4″. Length 50 ft. 90%

Lumber 15,500 ft.	@	$25.00	per M	$387.50
Carpenter Work	@	7.00	" "	108.50
Hauling	@	3.00	" "	46.50
Iron	@	2.00	" "	31.00
Nails	@	.30	" "	4.70
Earth Work				120.00
				$698.20

$628.40

Sidegate.

Sta. 910–47. Width 68″. Depth 64″. Length 36 ft. 30%

Lumber 2,209 ft.	@	$25.00	per M	$55.20
Carpenter Work	@	7.00	" "	15.40
Hauling	@	3.00	" "	6.60
Iron	@	2.00	" "	4.40
Nails	@	.30	" "	.70
Earth Work				25.00
				$107.30

$32.10

1920 Sidegate.

Sta. 927–24. Width 6 ft. Depth 56″. Length 33 ft. 40%

Lumber 1,970 ft.	@	$25.00	per M	$49.30
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				25.00
				$98.90 $36.50

Sidegate.

Sta. 937–21. Width 6 ft. Depth 6 ft. Length 37 ft. 40%

Lumber 2,448 ft.	@	$25.00	per M	$61.20
Carpenter Work	@	7.00	" "	17.50
Hauling	@	3.00	" "	7.50
Iron	@	2.00	" "	5.00
Nails	@	.30	" "	.80
Earth Work				25.00
				$117.00 $46.80

Sidegate.

Sta. 950–51. Width 6 ft. Depth 74″. Length 37 ft. 40%

Lumber 2,299 ft.	@	$25.00	per M	$57.50
Carpenter Work	@	7.00	" "	16.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$110.80 $44.30

1921 Sidegate.

Sta. 963–48. Width 6 ft. Depth 84″. Length 36 ft. 40%

Lumber 2,269 ft.	@	$25.00	per M	$46.70
Carpenter Work	@	7.00	" "	16.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$100.00 $40.00

Sidegate.

Sta. 991–41. Width 66". Depth 5 ft. Length 26 ft. 40%

Lumber 1,828 ft.	@	$25.00	per M	$45.70
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.60
Earth Work				25.00
				$92.90

$37.10

Sidegate.

Sta. 1005–07. Width 6 ft. Depth 4 ft. Length 25 ft. 40%

Lumber 1,551 ft.	@	$25.00	per M	$38.80
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$83.50

$33.40

1922 Bridge.

Sta. 1018–94. Width 18 ft. Length 80 ft. 40%

Lumber 9,887 ft.	@	$25.00	per M	$247.20
Carpenter Work	@	7.00	" "	66.30
Hauling	@	3.00	" "	29.70
Iron	@	2.00	" "	19.80
Nails	@	.30	" "	3.00
Earth Work				25.00
				$391.00

$156.40

Bridge.

Sta. 1018–94. Width 18 ft. Length 64 ft. 40%

Lumber 7,786 ft.	@	$25.00	per M	$194.70
Carpenter Work	@	7.00	" "	54.60
Hauling	@	3.00	" "	23.40
Iron	@	2.00	" "	15.60
Nails	@	.30	" "	2.40
Earth Work				25.00
				$315.70

$126.30

Sidegate.

Sta. 1019–52. Width 66". Depth 4 ft. Length 24 ft. 30%

Lumber, 1,401 ft...	@	$25.00	per M	$35.00
Carpenter Work ...	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$77.30 $23.20

1923

Sidegate.

Sta. 1046–26. Width 66". Depth 4 ft. Length 22 ft. 20". 20%

Lumber 1,393 ft....	@	$25.00	per M	$34.80
Carpenter Work ...	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$77.10 $15.40

Sidegate.

Sta. 1073–08. Width 6 ft. Depth 4 ft. Length 22 ft. 40%

Lumber 1,427 ft...	@	$25.00	per M	$38.20
Carpenter Work ...	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$80.50 $32.20

Gate.

Sta. 1118–21. Gate in Center Bank. Obsolete. 100%

Sidegate.

Sta. 1116–12. Width 4 ft. Depth 3 ft. Length 14 ft. 20%

Lumber 666 ft.....	@	$25.00	per M	$16.70
Carpenter Work ...	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$60.60 $12.10

1924 Sidegate.

Sta. 1123–09. Width 6 ft. Depth 54". Length 24 ft. 30%

Lumber 1,473 ft.	@	$25.00	per M	$36.80
Carpenter Work	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$80.30

Depreciation $24.10

Merced-Fresno County Line.

Station 1126.

Total Cost of Structures	$52,743.70
Total Depreciation "	$19,850.60
Present Value	$32,893.10

1925 Outside Canal, Fresno County.

Sidegate.

Sta. 0–42. Width 10 ft. Depth 68". Length 67 ft. Depreciation. 90%

Lumber 2,867 ft.	@	$25.00	per M	$71.70
Carpenter Work	@	7.00	" "	48.30
Hauling	@	3.00	" "	8.70
Iron	@	2.00	" "	5.80
Nails	@	.30	" "	.90
Earth Work				120.00
				$255.40

Depreciation $229.80

Bridge.

Sta. 0–42. Width 16 ft. Length 93 ft. 20%

Lumber 9,835 ft.	@	$25.00	per M	$245.90
Carpenter Work	@	7.00	" "	68.60
Hauling	@	3.00	" "	29.40
Iron	@	2.00	" "	19.60
Nails	@	.30	" "	2.00
Earth Work				25.00
				$390.50

Depreciation $78.10

Weir.

Sta. 0–78. Width 14 ft. Depth 84". Length 60 ft. 40%

Lumber 16,500 ft.	@ $25.00 per M	$412.50	
Carpenter Work	@ 7.00 " "	115.50	
Hauling	@ 3.00 " "	49.50	
Iron	@ 2.00 " "	33.00	
Nails	@ .30 " "	5.00	
Earth Work		120.00	
		$730.50	$294.20

1926

Gate — Side Ditch.

Sta. —— Type A. Width 10 ft. Depth 4 ft. Length 10 ft. 30%

Lumber 760 ft.	@ 25.00 per M	$19.00	
Carpenter Work	@ 7.00 " "	5.60	
Hauling	@ 3.00 " "	2.40	
Iron	@ 2.00 " "	1.60	
Nails	@ .30 " "	.50	
Earth Work		15.00	
		$44.10	$13.20

Gate in Side Ditch.

Sta. ——, Type A. $44.10 $13.20

Gate in Side Ditch.

Sta. ——, Type A. $44.10 $13.20

Gate in Side Ditch.

Sta. ——, Type B. Width 10 ft. Depth 5 ft. Length 12 ft. 30%

Lumber 1,228 ft.	@ $25.00 per M	$30.70	
Carpenter Work	@ 7.00 " "	9.10	
Hauling	@ 3.00 " "	3.90	
Iron	@ 2.00 " "	2.60	
Nails	@ .30 " "	.50	
Earth Work		15.00	
		$61.80	$18.50

Gate in Side Ditch.

Sta. ——, Type B. $61.80 $18.50

Gate in Side Ditch.

Sta. ——, Type B. $61.80 $30.90

1927 Sidegate.

Sta. 192–32. Width 12 ft. 8". Depth 6 ft. Length 26 ft. 30%

Lumber 2,928 ft.	@	$25.00	per M	$73.20
Carpenter Work	@	7.00	" "	20.30
Hauling	@	3.00	" "	8.70
Iron	@	2.00	" "	5.80
Nails	@	.30	" "	.90
Earth Work				25.00
				$133.90

$40.20

Gate in Side Ditch.

Sta. ——, Type A $44.10 $22.00

Bridge.

Sta. 246–37. Width 18 ft. Length 110 ft. 20%

Lumber 6,910 ft.	@	$25.00	per M	$172.70
Carpenter Work	@	7.00	" "	48.30
Hauling	@	3.00	" "	20.70
Iron	@	2.00	" "	13.80
Nails	@	.30	" "	2.10
Earth Work				25.00
				$282.60

$56.52

Gate in Side Ditch.

Sta. ——, Type C. Width 10 ft. Depth 52". Length 10 ft. 30%

Lumber 1,110 ft.	@	$25.00	per M	$27.70
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				15.00
				$56.40

$16.90

1928 Sidegate.

Sta. 268–54. Width 12 ft. Depth 6 ft. Length 25 ft. 30%

Lumber 3,350 ft.	@	$25.00	per M	$83.80
Carpenter Work	@	7.00	" "	23.80
Hauling	@	3.00	" "	10.20
Iron	@	2.00	" "	6.80
Nails	@	.30	" "	1.00
Earth Work				25.00
				$150.60

$45.20

Weir.

Sta. 270–24. Width 16 ft. Depth 6 ft. Length 60 ft. 20%

Lumber 16,200 ft.	@	$25.00	per M	$405.00
Carpenter Work	@	7.00	" "	113.40
Hauling	@	3.00	" "	48.60
Iron	@	2.00	" "	32.40
Nails	@	.30	" "	4.90
Earth Work				120.00
				$724.30

$144.80

Gate in Side Ditch.

Sta. ——, Type A $44.10 $8.80

Gate in Side Ditch.

Sta. ——, Type C..... $56.40 $22.60

Gate in Side Ditch.

Sta. ——, Type C..... $56.40 $22.60

1929

Bridge on Sideditch.

Sta. 393–21. Width 16 ft. Length 8 ft. 30%

Lumber 979 ft.	@	$25.00	per M	$24.50
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$62.00

$18.60

Bridge.

Sta. 393–81. Width 16 ft. Length 20 ft. 30%

Lumber 8,748 ft.	@	$25.00	per M	$218.70
Carpenter Work	@	7.00	" "	60.90
Hauling	@	3.00	" "	26.10
Iron	@	2.00	" "	17.40
Nails	@	.30	" "	2.60
Earth Work				25.00
				$350.70

$105.20

Bridge.

Sta. 407–37. Width 16 ft. Length 80 ft.		30%
Same as Station 393–81.	$350.70	$105.20

Weir, in Spillway.

Sta. 407–37. Width 16 ft. Depth 6 ft. Length 40 ft. 20%

Lumber 12,666 ft. ..	@	$25.00 per M		$316.70
Carpenter Work	@	7.00 " "		88.90
Hauling	@	3.00 " "		38.10
Iron	@	2.00 " "		25.40
Nails	@	.30 " "		3.80
Earth Work				120.00
				$592.90

$108.60

1930

Sidegate.

Sta. 407–37. Width 6 ft. Depth 6 ft. Length 22 ft. 20%

Lumber 2,002 ft.	@	$25.00 per M		$50.00
Carpenter Work	@	7.00 " "		14.00
Hauling	@	3.00 " "		6.00
Iron	@	2.00 " "		4.00
Nails	@	.30 " "		.60
Earth Work				25.00
				$99.60

$19.90

Sidegate.

Sta. 407–37. Width 12 ft. Depth 70". Length 22 ft. 20%

Lumber 3,560 ft.	@	$25.00 per M		$89.00
Carpenter Work	@	7.00 " "		25.20
Hauling	@	3.00 " "		10.70
Iron	@	2.00 " "		7.20
Nails	@	.30 " "		1.10
Earth Work				25.00
				$158.30

$31.60

Weir.

Sta. 408–67. Width 16 ft. Depth 6 ft. Length 60 ft. 20%

Same as Station 270–24.	$724.30	$814.80

Gate in Sideditch.

Sta. —, Type C.	$56.40	$22.50

1931 Sidegate.

Sta. 501–21. Width 10 ft. Depth 6 ft. Length 29 ft. 30%

Lumber 3,839 ft.	@	$25.00	per M	$95.90
Carpenter Work	@	7.00	" "	25.20
Hauling	@	3.00	" "	11.40
Iron	@	2.00	" "	7.60
Nails	@	.30	" "	1.20
Earth Work				25.00
				$166.30 $49.90

Gate in Sideditch.

Sta. —, Type A. $44.10 $22.00

Gate in Sideditch.

Sta. —, Type A. $44.10 $26.40

Bridge.

Sta. 590–99. Width 16 ft. Length 94 ft. 30%

Lumber 10,432 ft. ..	@	$25.00	per M	$268.80
Carpenter Work	@	7.00	" "	72.80
Hauling	@	3.00	" "	31.00
Iron	@	2.00	" "	20.80
Nails	@	.30	" "	3.20
Earth Work				25.00
				$413.80 $124.10

Gate in Sideditch.

Sta. —. Width 16 ft. Depth 64". Length 14 ft.

Lumber 2,283 Ft.	@	$25.00	per M	$57.70
Carpenter Work	@	7.00	" "	18.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$112.40 $33.70

1932 Sidegate.

Sta. 602–76. Width 12 ft. Depth 6 ft. Length 30 ft. 30%

Lumber 3,801 ft.	@	$25.00	per M	$95.10
Carpenter Work	@	7.00	" "	26.60
Hauling	@	3.00	" "	11.40
Iron	@	2.00	" "	7.60
Nails	@	.30	" "	1.20
Earth work				25.00
				$166.90 $50.00

Weir.

Sta. 603–96. Width 16 ft. Depth 6 ft. Length 60 ft. 20%

Same as Station 270–24. ..... $724.30 $144.80

Gate in Sideditch.

Sta. —, Type A. $44.10 $13.23

Gate in Sideditch.

Sta. —, Type C. $56.40 $22.50

Sidegate.

Sta. 717–19. Width 10 ft. Depth 6 ft. Length 20 ft. 20%

Lumber 3,005 ft.	@	$25.00	per M	$75.20
Carpenter Work	@	7.00	" "	21.00
Hauling	@	3.00	" "	9.00
Iron	@	2.00	" "	6.00
Nails	@	.30	" "	.90
Earth Work				25.00
				$137.10

$37.40

Gate in Sideditch.

Sta. —, Type C. $56.40 $22.50

1933 **Gate in Sideditch.**

Sta. —, Type C. $56.40 $22.50

Sidegate.

Sta. 787–33. Width 12 ft. Depth 76". Length 30 ft. 30%

Lumber 4,053 ft.	@	$25.00	per M	$110.50
Carpenter Work	@	7.00	" "	28.00
Hauling	@	3.00	" "	12.00
Iron	@	2.00	" "	8.00
Nails	@	.30	" "	1.20
Earth Work				25.00
				$175.70

$52.70

Weir.

Sta. 788–26. Width 16 ft. Depth 6 ft. Length 60 ft. 30%

Same as Station 270–24. ..... $724.30 $217.29

Gate in Sideditch.

Sta. —, Type C.					$56.40	$22.50

Bridge on Sideditch.

Sta. 853–18.	Width 24 ft.			Length 10 ft.	40%
Lumber 1,965 ft.	@	$25.00	per M	$49.20	
Carpenter Work	@	7.00	" "	14.00	
Hauling	@	3.00	" "	6.00	
Iron	@	2.00	" "	4.00	
Nails	@	.30	" "	.60	
Earth Work				25.00	
				$98.80	$39.50

1934

Bridge.

Sta. 853–18.	Width 12 ft.			Length 64 ft.	40%
Lumber 7,780 ft.	@	$25.00	per M	$194.50	
Carpenter Work	@	7.00	" "	54.60	
Hauling	@	3.00	" "	23.40	
Iron	@	2.00	" "	15.60	
Nails	@	.30	" "	2.40	
Earth Work				25.00	
				$315.50	$126.20

Sidegate.

Sta. 970–22.	Width 74".	Depth 6 ft.		Length 24 ft.	20%
Lumber 1,912 ft.	@	$25.00	per M	$47.80	
Carpenter Work	@	7.00	" "	13.30	
Hauling	@	3.00	" "	5.70	
Iron	@	2.00	" "	2.80	
Nails	@	.30	" "	.60	
Earth Work				25.00	
				$95.20	$19.00

Weir & Spillway.

Sta. 970–22.	Width 18 ft.	Depth 78".		Length 24 ft.	20%
Lumber 6,984 ft.	@	$25.00	per M	$174.60	
Carpenter Work	@	7.00	" "	49.00	
Hauling	@	3.00	" "	21.00	
Iron	@	2.00	" "	14.00	
Nails	@	.30	" "	2.10	
Earth Work				120.00	
				$380.70	$76.10

1935 **Bridge.**

Sta. 970–22. Width 16 ft. Length 62 ft. 30%.

Lumber 6,728 ft.	@	$25.00	per M	$168.20
Carpenter Work ...	@	7.00	" "	46.90
Hauling	@	3.00	" "	20.10
Iron	@	2.00	" "	13.40
Nails	@	.30	" "	2.00
Earth Work				25.00
				$275.60

$82.60

Sidegate.

Sta. 970–22. Width 12 ft. Depth 6 ft. Length 25 ft. 20%

Lumber 3,250 ft.	@	$25.00	per M	$81.30
Carpenter Work	@	7.00	" "	23.10
Hauling	@	3.00	" "	9.90
Iron	@	2.00	" "	6.60
Nails	@	.30		1.00
Earth Work				25.00
				$146.00

$29.40

Merced-Fresno County Line.

Station 1002–

Total Cost of Structures	$10,724.00
Total Depreciation "	2,760.14
Present Value	$7,963.86

1936 Dos Palos Canal Fresno County.

Weir.

Sta. 2–31. Shown on Main canal.

Weir.

Sta. 17–09. Width 18 ft. Depth 96". Length 30 ft. 60%

Lumber 12,500 ft..	@	$25.00	per M	$312.50
Carpenter Work ..	@	7.00	" "	87.50
Hauling	@	3.00	" "	37.50
Iron	@	2.00	" "	25.00
Nails	@	.30	" "	3.80
Earth Work				120.00
				$586.30

$341.80

Bridge.

Sta. 28–07. Width 16 ft. Length 14 ft. 30%

Lumber 1,684 ft.	@	$25.00	per M	$42.10
Carpenter Work	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$88.00

$26.40

Weir.

Sta. 46–50. Width 24 ft. Depth 100". Length 30 ft. 30%

Same as Station 17–09 ..... $586.30 $175.90

1937

Drain.

Sta. ——. Width 10 ft. Depth 4 ft. Length 60 ft. 60%

Lumber 4,230 ft.	@	$25.00	per M	$105.80
Carpenter Work	@	7.00	" "	30.10
Hauling	@	3.00	" "	12.90
Iron	@	2.00	" "	8.60
Nails	@	.30	" "	1.30
Earth Work				25.00
				$183.70

$110.20

Drain.

Sta. 67–00. Width 12 ft. Depth 12 ft. Length 20 ft. 60%

Lumber 2,400 ft	@	$25.00	per M	$60.00
Carpenter Work	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.80
Earth Work				25.00
				$114.60

$68.70

Sidegate.

Sta. 68–84. Width 4 ft. Depth 2 ft. Length 22 ft. 80%

Lumber 920 ft.	@	$25.00	per M	$23.00
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$58.50

$46.80

1938 Sidegate.

Sta. 72–68. Width 16 ft. Depth 82″. Length 23 ft. 60%

Lumber 4,040 ft.	@	$25.00	per M	$101.00
Carpenter Work	@	7.00	" "	28.00
Hauling	@	3.00	" "	12.00
Iron	@	2.00	" "	8.00
Nails	@	.30	" "	1.20
Earth Work				25.00
				$175.20

$105.12

Weir.

Sta. 73–17. Width 18 ft. Depth 96″. Length 40 ft. 40%

Same as Station 17–09 ..... $586.30 $233.50

Drain.

Sta. 94–68. Obsolete. 100%

Bridge.

Sta. 94–78. Width 16 ft. Length 32 ft. 60%

Lu-ber 3,192 ft.	@	$25.00	per M	$79.80
Carpenter Work	@	7.00	" "	22.40
Hauling	@	3.00	" "	9.60
Iron	@	2.00	" "	6.40
Nails	@	.30	" "	1.00
Earth Work				25.00
				$144.20

$85.50

Drain.

Sta. 98–21. Obsolete. 100%

1939 Sidegate.

Sta. 100–69. Width 48″. Depth 36″. Length 22 ft. 30%

Lumber 907 ft.	@	$25.00	per M	$22.70
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$59.00

$17.70

Sidegate.

Sta. 114–50. Width 30″. Depth 20″. Length 12 ft. 30%

Lumber 839 ft.	@	$25.00	per M	$21.00
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earthwork				25.00
				$57.30

$17.20

Drain.

Sta. 1700–00. Width 2 ft. Depth 3 ft. Length 20 ft. 30%.

Lumber 2,400 ft.	@	$25.00	per M	$50.00
Carpenter Work	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails		.30	" "	.80
Earth Work				25.00
				$114.60

$34.40

1940

Sidegate.

Sta. 123–62. Width 4 ft. Depth 3 ft. Length 22 ft. 30%

Earth Work				$25.00
Lumber 885 ft.	@	$25.00	per M	22.20
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
				$58.50

$17.50

Drain.

Sta. 131–58. Width 4 ft. Depth 3 ft. Length 20 ft. 40%

Lumber 2,600 ft.	@	$25.00	per M	$65.00
Carpenter Work	@	7.00	" "	18.20
Hauling	@	3.00	" "	7.80
Iron	@	2.00	" "	5.20
Nails	@	.30	" "	.80
Earth Work				25.00
				$122.00

$48.80

Spillway.

Sta. 131–58. Width 20 ft. Depth 6 ft. Length 20ft. 40%

Lumber 4,276 ft.	@	$25.00	per M	$106.90
Carpenter Work	@	7.00	" "	30.70
Hauling	@	3.00	" "	14.90
Iron	@	2.00	" "	8.60
Nails	@	.30	" "	1.50
Earth Work				120.00
				$282.60

$113.00

1941

Sidegate.

Sta. 133–90. Width 4 ft. Depth 4 ft. Length 24 ft. 30%

Lumber 1,057 ft.	@	$25.00	per M	$29.50
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$68.20

$20.40

Sidegate.

Sta. 143–75. Width 6 ft. Depth 6 ft. Length 20 ft. 40%

Lumber 2,043 ft.	@	$25.00	per M	$50.10
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.20	" "	.70
Earth Work				25.00
				$101.00

$40.40

Sidegate.

Sta. 143–21. Width 8 ft. Depth 5 ft. Length 32 ft. 30%

Lumber 2,103 ft.	@	$25.00	per M	$52.60
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.70
Earth Work				25.00
				$103.50

$51.70

1942 Weir.

Sta. 148–49. Width 20 ft. Depth 762. Length 44 ft. 60%

Lumber 13,000 ft.	@	$25.00	per M	$325.00
Carpenter Work	@	7.00	" "	91.00
Hauling	@	3.00	" "	30.90
Iron	@	2.00	" "	26.00
Nails	@	.30		4.00
Earth Work				120.00
				$605.00 $363.00

Sidegate.

Sta. 212–99. Width 12 ft. Depth 6 ft. Length 16 ft. 40%

Lumber 2,393 ft.	@	$25.00	per M	$59.80
Carpenter Work	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.70
Earth Work				25.00
				$114.30 $45.70

Bridge.

Sta. 217–13. Width 16 ft. Length 44 ft. 40%

Lumber 4,709 ft.	@	$25.00	per M	$117.70
Carpenter Work	@	7.00	" "	32.90
Hauling	@	3.00	" "	14.10
Iron	@	2.00	" "	8.40
Nails	@	.30	" "	1.40
Earth Work				25.00
				$200.50 $80.20

1943 Sidegate.

Sta. 224–76 Width 8 ft. Depth 5 ft. Length 20 ft. 40%

Lumber 2,093 ft.	@	$25.00	per M	$21.00
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.60
Earthwork				25.00
				$68.20 $27.30

Sidegate.

Sta. 236–44. Width 4 ft. Depth 5 ft. Length 20 ft. 40%

Lumber 1,541 ft...	@ $25.00 per M	$38.60	
Carpenter Work ...	@ 7.00 " "	11.20	
Hauling	@ 3.00 " "	4.80	
Iron	@ 2.00 " "	3.20	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$83.30	$33.30

Sidegate.

Sta. 240–90. Width 6 ft. Depth 3 ft. Length 20 ft. 50%

Lumber 775 ft. ...	@ $25.00 per M	$19.40	
Carpenter Work ..	@ 7.00 " "	5.60	
Hauling	@ 3.00 " "	2.40	
Iron	@ 2.00 " "	1.60	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$54.50	$27.20

1944

Sidegate.

Sta. 255–67. Width 8 ft. Depth 7 ft. Length 20 ft. 50%

Lumber 2,843 ft...	@ $25.00 per M	$71.10	
Carpenter Work ..	@ 7.00 " "	18.90	
Hauling	@ 3.00 " "	8.10	
Iron	@ 2.00 " "	5.40	
Nails	@ .30 " "	.80	
Earth Work		25.00	
		$129.30	$64.60

Sidegate.

Sta. 255–86. Width 8 ft. Depth 7 ft. Length 20 ft. 50%

Lumber 2,843 ft...	@ $25.00 per M	$71.10	
Carpenter Work ..	@ 7.00 " "	18.90	
Hauling	@ 3.00 " "	8.10	
Iron	@ 2.00 " "	5.40	
Nails	@ .30 " "	.80	
Earth Work		25.00	
		$129.30	$64.60

Sidegate.

Sta. 260–27. Width 30". Depth 4 ft. Length 24 ft. 30%

Lumber 1,004 ft. . . .	@ $25.00 per M	$25.10	
Carpenter Work . .	@ 7.00 " "	7.00	
Hauling	@ 3.00 " "	3.00	
Iron	@ 2.00 " "	2.00	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$62.60	$18.70

1945 Sidegate.

Sta. 263–86. Width 24 ft. Depth 4 ft. Length 24 ft. 50%

Lumber 744 ft.	@ $25.00 per M	$18.60	
Carpenter Work . .	@ 7.00 " "	5.60	
Hauling	@ 3.00 " "	2.40	
Iron	@ 2.00 " "	1.60	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$53.70	$26.80

Sidegate.

Sta. 272–18. Width 8 ft. Depth 76". Length 20 ft. 60%

Lumber 2,867 ft. . .	@ $25.00 per M	$71.70	
Carpenter Work . .	@ 7.00 " "	20.30	
Hauling	@ 3.00 " "	8.70	
Iron	@ 2.00 " "	5.80	
Nails	@ .30 " "	.90	
Earth Work		25.00	
		$132.40	$79.40

Weir.

Sta. 272–54. Width 20 ft. Depth 6 ft. Length 38 ft. 40%

Same as Station 17–09	$586.30	$234.50

Sidegate.

Sta. 283–54. Width 8 ft. Depth 5 ft. Length 20 ft. 40%

Lumber 2,257 ft. . .	@ $25.00 per M	$56.40	
Carpenter Work . .	@ 7.00 " "	16.10	
Hauling	@ 3.00 " "	6.90	
Iron	@ 2.00 " "	4.60	
Nails	@ .30 " "	.70	
Earth Work		25.00	
		$109.50	$43.80

1946 Sidegate.

Sta. 299–06. Width 86″. Depth 72″. Length 16 ft. 60%

Lumber 1,698 ft. . .	@	$25.00	per M	$42.50
Carpenter Work . .	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$88.40

$53.00

Bridge.

Sta. 293–50. Width 16 ft. Length 42 ft. 40%

Lumber 4,539 ft. . .	@	$25.00	per M	$113.50
Carpenter Work . .	@	7.00	" "	31.50
Hauling	@	3.00	" "	13.50
Iron	@	2.00	" "	9.00
Nails	@	.30	" "	1.40
Earth Work				25.00
				$193.90

$77.50

Sidegate.

Sta. 307–75. Width 8 ft. Depth 90″. Length 26 ft. 50%

Lumber 3,728 ft. . .	@	$25.00	per M	$93.20
Carpenter Work . .	@	7.00	" "	25.90
Hauling	@	3.00	" "	11.10
Iron	@	2.00	" "	7.40
Nails	@	.30	" "	1.20
Earth Work				25.00
				$163.80

$81.90

1947 Sidegate.

Sta. 307–64. Width 20″. Depth 2 ft. Length 16 ft. 40%

Lumber 5,062 ft. . .	@	$25.00	per M	$13.80
Carpenter Work . .	@	7.00	" "	3.50
Hauling	@	3.00	" "	1.50
Iron	@	2.00	" "	1.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$45.30

$18.10

Sidegate.

Sta. ——. Width 3 ft. Depth 30″. Length 20 ft. 50%

Lumber 748 ft.	@	$25.00	per M	$18.70
Carpenter Work	@	7.00	" "	5.60
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$53.80

$26.90

Weir.

Sta. 308–56. Width 20 ft. Depth 94″. Length 37 ft. 20%

Lumber 12,912 ft.	@	$25.00	per M	$322.80
Carpenter Work	@	7.00	" "	91.00
Hauling	@	3.00	" "	39.00
Iron	@	2.00	" "	26.00
Nails	@	.30	" "	3.90
Earth Work				120.00
				$602.70

$120.50

1948 **Sidegate.**

Sta. 325–74. Width 3 ft. Depth 3 ft. Length 20 ft. 30%

Lumber 762 ft.	@	$25.00	per M	$19.10
Carpenter Work	@	7.00	" "	5.30
Hauling	@	3.00	" "	2.30
Iron	@	2.00	" "	1.50
Nails	@	.30	" "	.50
Earth Work				25.00
				$53.70

$16.10

Bridge.

Sta. 329–12. Width 16 ft. Length 40 ft. 30%

Lumber 3,922 ft.	@	$25.00	per M	$98.10
Carpenter Work	@	7.00	" "	27.30
Hauling	@	3.00	" "	11.70
Iron	@	2.00	" "	7.80
Nails	@	.30	" "	1.20
Earth Work				25.00
				$171.10

$51.30

Bridge.

Sta. 335–46. Width 16 ft. Length 30 ft. 20%

Lumber 3,024 ft.	@	$25.00	per	M	$75.60
Carpenter Work	@	7.00	"	"	21.00
Hauling	@	3.00	"	"	9.00
Iron	@	2.00	"	"	6.00
Nails	@	.30	"	"	.90
Earth Work					25.00
					$137.50

$27.50

1949 **Sidegate.**

St'n 348–34. Width 50". Depth 4 ft. Length 20 ft. 40%

Lumber 1,101 ft.	@	$25.00	per	M	$27.80
Carpenter Work	@	7.00	"	"	7.70
Hauling	@	3.00	"	"	3.30
Iron	@	2.00	"	"	2.20
Nails	@	.30	"	"	.50
Earth Work					25.00
					$66.50

$26.60

Sidegate.

St'n 355–66. Width 4 ft. Depth 5 ft. Length 24 ft. 40%

Lumber 1,520 ft.	@	$25.00	per	M	$38.00
Carpenter Work	@	7.00	"	"	10.50
Hauling	@	3.00	"	"	4.50
Iron	@	2.00	"	"	3.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$81.50

$32.60

Sidegate.

St'n 359–22. Width 15 ft. Depth —". Length 26 ft. 40%.

Lumber 3,643 ft.	@	$25.00	per	M	$91.00
Carpenter Work	@	7.00	"	"	25.20
Hauling	@	3.00	"	"	10.80
Iron	@	2.00	"	"	7.20
Nails	@	.30	"	"	1.10
Earth Work					25.00
					$160.30

$64.10

1950 **Weir & Bridge.**

Sta. 351–56. Width 25 ft. Dipth 6 ft. Length 36 ft. 30%

Lumber 16,392 ft. ..	@	$25.00	per	M	$409.80
Carpenter Work	@	7.00	"	"	114.80
Hauling	@	3.00	"	"	49.20
Iron	@	2.00	"	"	32.80
Nails	@	.30	"	"	5.00
Earth Work	@		"	"	120.00
					$731.60

$219.50

Sidegate.

Sta. 369–75. Width 78". Depth 5 ft. Length 24 ft. 40%.

Lumber 1,913 ft.	@	$25.00	per	M	$47.80
Carpenter Work	@	7.00	"	"	13.30
Hauling	@	3.00	"	"	5.70
Iron	@	2.00	"	"	3.80
Nails	@	.30	"	"	.60
Earth Work	@	.....			25.00
					$96.20

$38.30

Sidegate.

Sta. 397–13. Width 44". Depth 44". Length 20 ft. 30%.

Lumber 1,036 ft.	@	$25.00	per	M	$25.90
Carpenter Work	@	7.00	"	"	7.00
Hauling	@	3.00	"	"	3.00
Iron	@	2.00	"	"	2.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$63.40

$19.00

1951 **Sidegate.**

Sta. 388–24. Width 44". Depth 4 ft. Length 20 ft. 30%

Lumber 1,036 ft.	@	$25.00	per	M	$25.90
Carpenter Work	@	7.00	"	"	7.00
Hauling	@	3.00	"	"	3.00
Iron	@	2.00	"	"	2.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$61.40

$18.40

Drain.

Sta. 388–77. Covered with Earth.

Bridge.

Sta. 388–77. Width 96 ft. Length 90 ft. 30%

Lumber 9,585 ft.	@	$25.00	per	M	$239.60
Carpenter Work	@	7.00	"	"	67.20
Hauling	@	3.00	"	"	28.80
Iron	@	2.00	"	"	19.20
Nails	@	.30	"	"	2.90
Earth Work					25.00
					$382.70

$114.80

Sidegate.

Sta. 393–58. Width 5 ft. Depth 64". Length 23 ft. 40%.

Lumber 1,847 ft.	@	$25.00	per	M	$46.20
Carpenter Work	@	7.00	"	"	12.60
Hauling	@	3.00	"	"	5.40
Iron	@	2.00	"	"	3.60
Nails	@	.30	"	"	.50
Earth Work					25.00
					$93.30

$37.30

1952

Sidegate.

Sta. 396–44. Width 4 ft. Depth 30". Length 20 ft. 40%

Lumber 851 ft.	@	$25.00	per	M	$21.30
Carpenter Work	@	7.00	"	"	5.90
Hauling	@	3.00	"	"	2.50
Iron	@	2.00	"	"	1.70
Nails	@	.30	"	"	.50
Earth Work					25.00
					$56.90

$22.80

Sidegate.

Sta. 397–62. Width 62". Depth 72". Length 32 ft. 30%.

Lumber 1,698 ft.	@	$25.00	per	M	$42.50
Carpenter Work	@	7.00	"	"	11.90
Hauling	@	3.00	"	"	5.10
Iron	@	2.00	"	"	3.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$88.40

$26.50

Sidegate for Lateral.

Sta. 401–95. Width 34″. Depth 6 ft. Length 20 ft. 50%.

Lumber 1,779 ft.	@	$25.00	per M	$44.50
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$91.60

$45.80

1953

Weir.

Sta. 403–82. Width 20 ft. Depth 6 ft. Length 30 ft. 40%.

Lumber 10,200 ft. ...	@	$25.00	per M.	$255.00
Carpenter Work	@	7.00	" "	71.40
Hauling	@	3.00	" "	30.60
Iron	@	2.00	" "	20.40
Nails	@	.30	" "	3.10
Earth Work				120.00
				$500.50

$200.20

Sidegate.

Sta. 405–06. Width 32″. Depth 32″. Length 20 ft. 30%.

Lumber 683 ft.	@	$25.00	per M	$17.10
Carpenter Work	@	7.00	" "	4.80
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$40.90

$12.30

Sidegate.

Sta. 409–64. Width 4 ft. Depth 54″. Length 22 ft. 40%

Lumber 1,160 ft.	@	$25.00	per M	$29.00
Carpenter Work	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$68.90

$27.60

1954 Sidegate.

Sta. 416–41. Width 24″. Depth 36″. Length 20 ft. 40%.

Lumber 698 ft.	@	$25.00	per	M	$17.40
Carpenter Work	@	7.00	"	"	4.80
Hauling	@	3.00	"	"	2.10
Iron	@	2.00	"	"	1.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$51.20

$20.50

Sidegate.

Sta. 419–68. Width 3 ft. Depth 42″. Length 20 ft. 40%.

Lumber 899 ft.	@	$25.00	per	M	$22.50
Carpenter Work	@	7.00	"	"	6.10
Hauling	@	3.00	"	"	2.70
Iron	@	2.00	"	"	1.80
Nails	@	.30	"	"	.50
Earth Work					25.00
					$58.60

$21.30

Sidegate.

Sta. 421–56. Width 3 ft. Depth 3 ft. Length 22 ft. 40%.

Lumber 782 ft.	@	$25.00	per	M	$19.50
Carpenter Work	@	7.00	"	"	5.50
Hauling	@	3.00	"	"	2.20
Iron	@	2.00	"	"	1.60
Nails	@	.30	"	"	.50
Earth Work					25.00
					$44.30

$17.70

1955 Bridge.

Sta. 425–66. Width 16 ft. Length 134 ft. 40%.

Lumber 1,494 ft.	@	$25.00	per	M	$357.40
Carpenter Work	@	7.00	"	"	100.10
Hauling	@	3.00	"	"	42.90
Iron	@	2.00	"	"	29.00
Nails	@	.30	"	"	4.30
Earth Work					25.00
					$558.70

$223.50

Sidegate.

Sta. 426–63. Width 6 ft. Depth 6 ft. Length 20 ft. 50%.

Lumber 1,532 ft.	@	$25.00	per	M	$38.30
Carpenter Work	@	7.00	"	"	10.50
Hauling	@	3.00	"	"	4.50
Iron	@	2.00	"	"	3.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$81.80

$40.90

Measuring Gate.

Sta. 426–63. Width 4 ft. Depth 4 ft. Length 5 ft. 20%.

Lumber 489 ft.	@	$25.00	per	M	$12.20
Carpenter Work	@	7.00	"	"	3.40
Hauling	@	3.00	"	"	1.50
Iron	@	2.20	"	"	1.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$43.60

$8.70

1956

Bridge.

Sta. 429–47. Width 24 ft. Dep. —. Length 30 ft. 40%.

Lumber 5,053 ft.	@	$25.00	per	M	$126.30
Carpenter Work	@	7.00	"	"	35.00
Hauling	@	3.00	"	"	15.00
Iron	@	2.00	"	"	10.00
Nails	@	.30	"	"	1.50
Earth Work					25.00
					$212.80

$85.10

Sidegate.

Sta. 429–86. Width 50". Depth 66". Length 38 ft. 40%.

Lumber 2,197 ft.	@	$25.00	per	M	$54.90
Carpenter Work	@	7.00	"	"	15.40
Hauling	@	3.00	"	"	6.60
Iron	@	2.00	"	"	4.40
Nails	@	.30	"	"	.70
Earth Work					25.00
					$107.00

$42.80

Sidegate.

Sta. 429–86. Width 4 ft. Depth 6 ft. Length 20 ft. 40%.

Lumber 1,291 ft.	@	$25.00	per	M	$32.30	
Carpenter Work	@	7.00	"	"	9.10	
Hauling	@	3.00	"	"	3.90	
Iron	@	2.00	"	"	**2.60**	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$73.40	$29.40

1957 **Sidegate.**

Sta. 448"20. Width 32". Depth 44". Length 22 ft. 30%.

Lumber 906 ft.	@	$25.00	per	M	$22.60	
Carpenter Work	@	7.00	"	"	6.30	
Hauling	@	3.00	"	"	2.70	
Iron	@	2.00	"	"	1.80	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$58.90	$17.70

Measuring Gate.

Sta. 428–20. Width 12 ft. Depth 64". Length 16 ft. 30%.

Lumber 1,875 ft.	@	$25.00	per	M	$46.80	
Carpenter Work	@	7.00	"	"	13.30	
Hauling	@	3.00	"	"	5.70	
Iron	@	2.00	"	"	3.80	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$95.10	$28.50

Measuring Gate.

Sta. 448–20. Width 4 ft. Depth 54". Length 6 ft. 30%.

Lumber 526 ft.	@	$25.00	per	M	$13.10	
Carpenter Work	@	7.00	"	"	3.60	
Hauling	@	3.00	"	"	1.70	
Iron	@	2.00	"	"	1.10	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$45.00	$13.50

1958 Weir.

Sta. 438–43. Width 20 ft. Depth 84". Length 36 ft. 40%

Lumber 12,000 ft.	@	$25.00	per M	$300.00
Carpenter Work	@	7.00	" "	84.00
Hauling	@	3.00	" "	36.00
Iron	@	2.00	" "	24.00
Nails	@	.30	" "	3.60
Earth Work				120.00
				$567.60 $227.00

Sidegate.

Sta. 440–64. Width 2 ft. Depth 3 ft. Length 22 ft. 40%

Earth Work				$25.00
Lumber 808 ft.	@	$25.00	per M	$20.20
Carpenter Work	@	7.00	" "	5.60
Hauling	@	2.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
				$55.30 $22.10

Sidegate.

Sta. 450–86. Width 4 ft. Depth 50". Length 20 ft. 40%

Lumber 1,072 ft.	@	$25.00	per M	$26.80
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$65.50 $26.20

1959 Sidegate.

Sta. 455–17. Width 2 ft. Depth 32". Length 20 ft. 40%

Lumber 684 ft.	@	$25.00	per M	$17.10
Carpenter Work	@	7.00	" "	4.80
Hauling	@	3.00	" "	2.00
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$51.80 $20.70

Sidegate.

Sta. 455–54. Width 4 ft. Depth 50″. Length 22 ft. 50%

Lumber 1,226 ft.	@	$25.00	per M	$30.60
Carpenter Work	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$70.50

$35.20

Sidegate.

Sta. 459–13. Width 3 ft. Depth 4 ft. Length 20 ft. 40%

Lumber 1,049 Ft.	@	$25.00	per M	$26.20
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$63.70

$25.50

1960 Sidegate.

Sta. 462–05 Width 62″. Depth 5 ft. Length 23 ft. 40%

Lumber 1,640 ft.	@	$25.00	per M	$41.00
Carpenter Work	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.60
Earth Work				25.00
				$87.00

$34.80

Bridge.

Sta. 465–90. Width 25 ft. Length 40 ft. 50%

Lumber 6,251 ft.	@	$25.00	per M	$156.20
Carpenter Work	@	7.00	" "	43.40
Hauling	@	3.00	" "	18.80
Iron	@	2.00	" "	12.40
Nails	@	.30	" "	1.90
Earth Work				25.00
				$257.70

$128.80

Sidegate.

Sta. 466–87. Width 6 ft. Depth 54″. Length 24 ft. 40%

Lumber 1,932 ft.	@	$25.00	per M	$48.30
Carpenter Work	@	7.00	" "	13.30
Hauling	@	3.00	" "	5.70
Iron	@	2.00	" "	3.80
Nails	@	.30	" "	.60
Earth Work				25.00
				$96.70

$38.80

1961 Sidegate.

Sta. 469–09. Width 3 ft. Depth 3 ft. Length 24 ft. 30%

Lumber 879 ft.	@	$25.00	per M	$21.90
Carpenter Work	@	7.00	" "	6.10
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$58.00

$17.40

Merced-Fresno County Line.

Station 469–50.

Total Cost of Structures	$13,083.90
Total Depreciation	4,534.60
Present Value	$8,549.30

1962 *Fresno County Miscellaneous Structures.*

China Slough Headgate.

Sta. 0–00. Width 24 ft. Depth 12 ft. Length 80 ft. 30%

Lumber 27,520 ft.	@	$25.00	per M	$688.00
Carpenter Work	@	7.00	" "	192.50
Hauling	@	3.00	" "	82.50
Iron	@	2.00	" "	55.00
Nails	@	.30	" "	8.30
Earth Work				120.00
				$1,146.30

$343.90

Buildings Head Work.

House	$350.00	20%
Barn	175.00	
Tool House	75.00	
Out Buildings	25.00	
Granery	20.00	
Gences, etc.		150.00
Levees	250.00	
	$1,245.00	$249.00

Bridge China Slough.

Sta. ——. Width 16 ft. Length 83 ft. 30%

Lumber 9,510 ft...@	$25.00 per M	$237.80
Carpenter Work ...@	7.00 " "	66.50
Hauling .....@	3.00 " "	28.50
Iron .....@	2.00 " "	19.00
Nails .....@	.30 " "	2.90
Earth Work		25.00
		$379.70 $113.91
Total cost of structures		2,761.00
Total Depreciation "		706.80
Present Value.....		$2,554.20

1963 *Estimate of Value of the San Joaquin & Kings River Canal & Irrigation Company's Canal, Merced County, California.*

Total Present Value of Structures.....	$48,593.30
Total Present Value of Earth Work	133,475.90
Engineering & Supervision, 10%.....	18,052.00
Contingencies, 10%	18,052.00
Total Value	$218,173.20

1964 Earth Work in Merced County, Main Canal.

Sta. 1126–00—1343–00	145,288	cu. yds.
Sta. 1343–00—1460–00	70,092	yds.
Sta. 1460–00—1550–00	65,054	yds.
Sta. 1550–00—1660–00	70,206	yds.
Sta. 1660–00—1759–35	76,411	yds.
Sta. 1759–35—1890–51	84,088	yds.
Sta. 1890–51—1986–58	77,871	yds.
Sta. 1986–58—1995–29	7,934	yds.
Sta. 1995–29—2007–51	Los Banos Creek.	

Sta. 2007–51—2090–00	68,588 yds.
Sta. 2090–00—2260–00	121,412 yds.
Sta. 2260–00—2400–00	70,604 yds.
Sta. 2400–00—2590–00	172,639 yds.
Sta. 2590–00—2768–82	111,265 yds.
Sta. 2768–82—3009–12	140,524 yds.
Sta. 3009–12—3225–00	94,348 yds.
Total Earth Work	1,376,324 yds.

Cost 1,376,324 yds. @ $.05 ..... $68,816.20

Earth Work in Merced County, Outside Canal.

1102–00—1140–00	59,037 yds.
Sta. 1140–00—1349–70	102,753 yds.
Sta. 1349–70—1518–92	93,159 yds.
Sta. 1518–92—1760–00	111,451 yds.
Sta. 1760–00—1900–00	123,060 yds.
Sta. 1900–00—2020–00	79,332 yds.
Sta. 2020–00—2140–00	52,812 yds.
Sta. 2140–00—2230–00	35,875 yds.
Carried Forward	657,487 yds.

1965

Brought forward	654,487 yds.
Sta. 2230–00—2290–00	26,568 yds.
Sta. 2290–00—2370–00	30,768 yds.
Sta. 2370–00—2567–95	80,584 yds.
Total Earth Work	795,398 yds.

Cost 795,397 yds. @ $.06 ..... $47,623.80

Earth Work in Merced County, Dos Palos Canal.

Sta. 469–50— 757–00 ..... 119,772 yds.

Cost 119,772 yds. @ $.07 ..... $8,384.10

Sideditch, Outside Canal.

Sta. 1002–00—1140–00	7,240 yds.
Sta. 1140–00—1349–70	9,837 yds.
Sta. 1349–70—1518–92	12,126 yds.
Sta. 1518–92—1579–90	3,726 yds.
Sta. 1579–90—1759–33	10,977 yds.
Total Earth Work	36,666 yds.

Cost 36,666 yds. @ $.07 ..... $2,566.60

Sideditch, Main Canal.

Sta. 1460–00—1550–00	12,890 yds.	
Sta. 1550–00—1660–00	12,222 yds.	
Sta. 1660–00—1759–35	11,896 yds.	
Sta. 1759–35—1890–51	21,655 yds.	
Sta. 1890–51—1995–29	6,910 yds.	
Total Earth Work	65,573 yds.	
Cost 65,573 yds. @ $.07		$4,590.10

1966 Spillways, Outside Canal, in Merced County.

No. 4 Length 1,779 ft. 5,924 yds. @ $.07	$414.80
No. 5 Length 6,715 ft. 15,447 yds. @ $.07	$1,081.30

Gates in Spillway No. 4.

Width 20 ft.	Depth 10 ft.		Length 20 ft.
Lumber 6,892 ft.	Cost $377.20	Dep. 30%	$113.20
3 Gates as above.	Total for Spillway	$1,131.60	$339.60

Gates in Spillway No. 5.

Sta. 15–51.	Bridge Width 24 ft.	Length 28 ft.	30%
Cost		$240.00	$72.00

Sta. 17–26	Weir	Width	20	ft.	Depth	8	ft.	Length	16	ft.	30%
Sta. 25–48	"	"	"	"	"	"	"	"	"	"	"	"
Sta. 34–59	"	"	"	"	"	"	"	"	"	"	"	"
Sta. 47–75	"	"	"	"	"	"	"	"	"	"	"	"
Sta. 56–76	"	"	"	"	"	"	"	"	"	"	"	"

Cost of above $386.00 each	$1,950.00	$579.00

Canal Camps.

Camp 13. House	$375.00		
Barn	175.00		
Out Build.	75.00		
Fences, etc.	50.00		
	$675.00		$202.50
Sta. 1775. Outside Canal			30%
House	$350.00		
Barn	175.00		
Bunk House	75.00		
Out buildings	75.00		
Fences, etc.	75.00		
	$750.00		225.00

1967

Sta. 2257.	Main Canal		30%
	House	$350.00	
	Barn	175.00	
	Bunk house	45.00	
	Fences, etc.	35.00	
	Well, etc.	75.00	
		$680.00	$204.00

Telephone Lines, Merced County.

38.8 miles @ $115.00 per Mile	$4,557.00	30%
½ Charged to Miller & Lux	2,278.50	
½ Charged to Canal Company	2,278.50	$683.50

1968 *Dos Palos Canal, Merced County.*

Station 469–50.

Sta. 474–56. New Structure.

Sidegate.

Sta. 499–17. Width 4 ft. Depth 64". Length 22 ft. 30%

Lumber 1,507 ft...	@ $25.00 per M	$37.60	
Carpenter Work ..	@ 7.00 " "	10.50	
Hauling	@ 3.00 " "	4.50	
Iron	@ 2.00 " "	3.00	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$81.10	$24.30

Sidegate.

Sta. 479–17. Width 3 ft. Depth 4 ft. Length 21 ft. 30%

Lumber 1,213 ft...	@ $25.00 per M	$30.30	
Carpenter Work ..	@ 7.00 " "	8.40	
Hauling	@ 3.00 " "	3.60	
Iron	@ 2.00 " "	2.40	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$70.20	$21.00

Weir.

Sta. 479–20. Width 20 ft. Depth 6 ft. Length 38 ft. 40%

Lumber 12,000 ft.	@	$25.00	per	M	$300.00
Carpenter Work	@	7.00	"	"	84.00
Hauling	@	3.00	"	"	36.00
Iron	@	2.00	"	"	24.00
Nails	@	.30	"	"	3.60
Earth Work					120.00
					$567.60

$237.00

1969

Sideditch.

Sta. 488–09. Width 2 ft. Depth 42". Length 24 ft. 40%

Lumber 991 ft.	@	$25.00	per	M	$24.80
Carpenter Work	@	7.00	"	"	6.90
Hauling	@	3.00	"	"	2.90
Iron	@	2.00	"	"	2.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$62.10

$24.90

Bridge.

Sta. 492–28. Width 16 ft. Length 42 ft. 40%

Lumber 4,541 ft.	@	$25.00	per	M	$113.50
Carpenter Work	@	7.00	"	"	31.50
Hauling	@	3.00	"	"	13.50
Iron	@	2.00	"	"	9.00
Nails	@	.30	"	"	1.40
Earth Work					25.00
					$193.90

$77.60

Sidegate.

Sta. 492–97. Width ——. Filled with Mud. Obsolete.

Sidegate.

Sta. 499–35. Width 3 ft. Depth 3 ft. Length 24 ft. 30%

Lumber 924 ft.	@	$25.00	per	M	$23.10
Carpenter Work	@	7.00	"	"	6.40
Hauling	@	3.00	"	"	8.70
Iron	@	2.00	"	"	1.80
Nails	@	.30	"	"	.50
Earth Work					25.00
					$59.50

$17.80

1970 Sidegate, Lateral.

Station 499–76.

Sta. 499–76. Width 18 ft. Depth 90". Length 21 ft. 50%

Lumber 3,925 ft.	@	$25.00	per M	$98.10
Carpenter Work	@	7.00	" "	27.30
Hauling	@	3.00	" "	11.70
Hauling	@	2.00	" "	7.80
Nails	@	.30	" "	1.20
Earth Work				25.00
				$171.10 $85.50

Weir.

Sta. 502–52. Width 20 ft. Depth 8 ft. Length 38 ft. 60%

Lumber 12,000 ft.	@	$25.00	per M	$300.00
Carpenter Work	@	7.00	" "	84.00
Hauling	@	3.00	" "	36.00
Iron	@	2.00	" "	24.00
Nails	@	.30	" "	3.60
Earth Work				120.00
				$567.60 $340.60

Sidegate.

Sta. 502–72. Width 3 ft. Depth 30". Length 20 ft. 40%

Lumber 725 ft.	@	$25.00	per M	$18.10
Carpenter Work	@	7.00	" "	5.00
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$52.10 $20.80

1971 Sidegate.

Sta. 502–84. Width 32". Depth 40". Length 20 ft. 40%

Lumber 815 ft.	@	$25.00	per M	$20.40
Carpenter Work	@	7.00	" "	5.70
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$45.60 $18.20

Sidegate.

Sta. 506–44. Width 40″. Depth 40″. Length 20 ft.				30%
Lumber 839 ft.	@	$25.00 per M	$21.00	
Carpenter Work . .	@	7.00 " "	5.80	
Hauling	@	3.00 " "	2.40	
Iron	@	2.00 " "	1.70	
Nails	@	.30 " "	.50	
Earth Work			25.00	
			$56.40	$16.90

Sidegate.

Sta. 506–47. Width 4 ft. Depth 52″. Length 21 ft.				40%
Lumber 1,256 ft. . .	@	$25.00 per M	$31.40	
Carpenter Work . .	@	7.00 " "	8.40	
Hauling	@	3.00 " "	3.60	
Iron	@	2.00 " "	2.40	
Nails	@	.30 " "	.50	
Earth Work			25.00	
			$69.30	$27.70

1972 Sidegate.

Sta. 513–01. Width 2 ft. Depth 42″. Length 20 ft.				30%
Lumber 760 ft. . . .	@	$25.00 per M	$19.00	
Carpenter Work . .	@	7.00 " "	5.60	
Hauling	@	3.00 " "	2.40	
Iron	@	2.00 " "	1.60	
Nails	@	.30 " "	.50	
Earth Work			25.00	
			$54.10	$16.20

Sidegate.

Sta. 515–78. Width 2 ft. Depth 42″. Length 24 ft.				30%
Lumber 991 ft.	@	$25.00 per M	$24.70	
Carpenter Work . .	@	7.00 " "	6.90	
Hauling	@	3.00 " "	2.90	
Iron	@	2.00 " "	1.90	
Nails	@	.30 " "	.50	
Earth Work			25.00	
			$61.90	$18.60

Sidegate.

Sta. 519–59. Width 6 ft. Depth 4 ft. Length 21 ft.			30%
Lumber 1,352 ft...@	$25.00 per M	$33.70	
Carpenter Work ..@	7.00 " "	9.10	
Hauling .....@	3.00 " "	3.90	
Iron .....@	2.00 " "	2.60	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$74.80	$22.40

1973

Sidegate.

Sta. 519–69. Width 46". Depth 48". Length 20 ft.			30%
Lumber 1,083 ft...@	$25.00 per M	$27.10	
Carpenter Work ..@	7.00 " "	7.70	
Hauling .....@	3.00 " "	3.30	
Iron .....@	2.00 " "	2.20	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$57.80	$17.30

Sidegate.

Sta. 524–44. Width 2 ft. Depth 3 ft. Length 24 ft.			30%
Lumber 845 ft.....@	$25.00 per M	$21.10	
Carpenter Work ..@	7.00 " "	5.80	
Hauling .....@	3.00 " "	2.50	
Iron .....@	2.00 " "	1.70	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$56.60	$17.00

Bridge.

Sta. 526–20. Width 18 ft. Length 42 ft.			20%
Lumber 6,064 ft...@	$25.00 per M	$151.60	
Carpenter Work ..@	7.00 " "	42.00	
Hauling .....@	3.00 " "	18.00	
Iron .....@	2.00 " "	12.00	
Nails .....@	.30 " "	1.80	
Earth Work		25.00	
		$252.40	$50.50

1974 Sidegate.

Sta. 528–81. Width 5 ft. Depth 68″. Length 21 ft. 50%.

Lumber 1,870 ft. . .	@	$25.00	per M	$46.70
Carpenter Work. . . .	@	7.00	" "	13.30
Hauling	@	3.00	" "	5.70
Iron	@	2.00	" "	3.80
Nails	@	.30	" "	.60
Earth Work.				25.00
				$95.10

$45.50

Sidegate.

Sta. 532–31. Width 4 ft. Depth 3 ft. Length 21 ft. 40%.

Lumber 1,007 ft. . . .	@	$25.00	per M	$25.20
Carpenter Work. . . .	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work.				25.00
				$62.70

$25.00

Sidegate.

Sta. 539–41. Width 12 ft. Depth 66″. Length 20 ft. 80%.

Lumber 1,454 ft. . . .	@	$25.00	per M	$36.30
Carpenter Work. . . .	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work.				25.00
				$79.80

$63.80

1975 Measureing Gate.

Sta. 539–41. Width 4 ft. Depth 3 ft. Length 9 ft. 20%.

Lumber 443 ft.	@	$25.00	per M	$11.10
Carpenter Work. . . .	@	7.00	" "	3.10
Hauling	@	3.00	" "	1.30
Iron	@	2.00	" "	.80
Nails	@	.30	" "	.50
Earth Work.				25.00
				$41.80

$8.40

Weir.

Sta. 540–54. Width 20 ft. Depth 90″. Length 37 ft. 60%.

Lumber 13,807 ft.	@	$25.00	per M	$345.20
Carpenter Work	@	7.00	" "	96.60
Hauling	@	3.00	" "	41.40
Iron	@	2.00	" "	27.60
Nails	@	.30	" "	4.20
Earth Work				120.00
				$635.00

$391.00

Sidegate.

Sta. 547–03. Width 2 ft. Depth 3 ft. Length 24 ft. 30%.

Lumber 851 ft.	@	$25.00	per M	$21.30
Carpenter Work	@	7.00	" "	5.90
Hauling	@	3.00	" "	2.60
Iron	@	2.00	" "	1.70
Nails	@	.30	" "	.50
Earth Work				25.00
				$57.00

$17.10

1976

Sidegate.

Sta. 552–97. Width 54″. Depth 6 ft. Length 24 ft. 30%

Lumber 1,844 ft.	@	$25.00	per M	$46.10
Carpenter Work	@	7.00	" "	12.70
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$93.20

$27.90

Sidegate.

Sta. 556–71. Width 2 ft. Depth 30″. Length 24 ft. 30%.

Lumber 825 ft.	@	$25.00	per M	$20.60
Carpenter Work	@	7.00	" "	5.70
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.80

$16.60

Sidegate.

Sta. 560–53.	Width 4 ft.	Depth 3 ft.	Length 21 ft.	30%.
Lumber 1,861 ft.	@ $25.00 per M		$21.50	
Carpenter Work.	@ 7.00 " "		6.30	
Hauling	@ 3.00 " "		2.70	
Iron	@ 2.00 " "		1.80	
Nails	@ .30 " "		.50	
Earth Work			25.00	
			$57.80	$17.40

1977 Drain.

Sta. 561–88.	Width 3 ft.	Depth 2 ft.	Length 80 ft.	30%.
Lumber 688 ft.	@ $25.00 per M		$17.20	
Carpenter Work.	@ 7.00 " "		4.90	
Hauling	@ 3.00 " "		2.10	
Iron	@ 2.00 " "		1.40	
Nails	@ .30 " "		.50	
Earth Work			25.00	
			$51.10	$15.40

Sidegate.

Sta. 566–17.	Width 54".	Depth 5 ft.	Length 21 ft.	40%.
Lumber 1,338 ft.	@ $25.00 per M		$33.40	
Carpenter Work.	@ 7.00 " "		9.10	
Hauling	@ 3.00 " "		3.90	
Iron	@ 2.00 " "		2.60	
Nails	@ .30 " "		.50	
Earth Work			25.00	
			$74.50	$29.80

Sidegate.

Sta. 569–88.	Width 4 ft.	Depth 40".	Length 22 ft.	40%.
Lumber 1,034 ft.	@ $25.00 per M		$25.80	
Carpenter Work.	@ 7.00 " "		7.00	
Hauling	@ 3.00 " "		3.00	
Iron	@ 2.00 " "		2.00	
Nails	@ .30 " "		.50	
Earth Work			25.00	
			$63.30	$25.30

1978 **Sidegate.**

Sta. 571–21. Width 12 ft. Depth 90″. Length 20 ft. 40%.

Lumber 2,959 ft.	@	$25.00	per	M	$74.00
Carpenter Work	@	7.00	"	"	20.30
Hauling	@	3.00	"	"	8.70
Iron	@	2.00	"	"	5.80
Nails	@	.30	"	"	.90
Earth Work					25.00
					$134.70

$43.90

Sidegate.

Sta. 575–17. Width 66″. Depth 4 ft. Length 20 ft. 40%.

Lumber 1,225 ft.	@	$25.00	per	M	$30.60
Carpenter Work	@	7.00	"	"	8.40
Hauling	@	3.00	"	"	3.60
Iron	@	2.00	"	"	2.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$70.50

$28.20

Sidegate.

Sta. 577–17. Width 4 ft. Depth 40″. Length 20 ft. 30%.

Lumber 977 ft.	@	$25.00	per	M	$24.40
Hauling	@	3.00	"	"	2.90
Carpenter Work	@	7.00	"	"	6.80
Iron	@	2.00	"	"	1.90
Nails	@	.30	"	"	.50
Earth Work					25.00
					$61.50

$18.50

1979 **Bridge.**

Sta. 579–76. Width 12 ft. Length 60 ft. 30%

Lumber 5,859 ft.	@	$25.00	per	M	$146.70
Carpenter Work	@	7.00	"	"	41.30
Hauling	@	3.00	"	"	17.70
Iron	@	2.00	"	"	11.80
Nails	@	.30	"	"	1.80
Earth Work					25.00
					$244.30

$73.30

Sidegate.

Sta. 582–52. Width 8 ft. Depth 54". Length 24 ft. 30%

Lumber 2,187 ft.	@	$25.00	per	M	$54.70	
Carpenter Work	@	7.00	"	"	15.40	
Hauling	@	3.00	"	"	6.60	
Iron	@	2.00	"	"	4.40	
Nails	@	.30	"	"	.60	
Earth Work					25.00	
					$106.70	$32.00

Weir Wasteway.

Sta. —. Width 18 ft. Depth 90". Length 50 ft. 40%.

Lumber 16,000 ft.	@	$25.00	per	M	$400.00	
Carpenter Work	@	7.00	"	"	112.00	
Hauling	@	3.00	"	"	48.00	
Iron	@	2.00	"	"	32.00	
Nails	@	.30	"	"	4.80	
Earth Work					120.00	
					$716.80	$286.70

1980 Sidegate.

Sta. 588–27. Width 4 ft. Depth 4 ft. Length 19 ft.

Lumber 1,114 ft.	@	$25.00	per	M	$37.90	
Carpenter Work	@	7.00	"	"	7.70	
Hauling	@	3.00	"	"	3.30	
Iron	@	2.00	"	"	2.20	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$76.60	$23.00

Sidegate.

Sta. 592–84. Width 4 ft. Depth 7 ft. Length 20 ft. 30%

Lumber 895 ft.	@	$25.00	per	M	$22.40	
Carpenter Work	@	7.00	"	"	5.90	
Hauling	@	3.00	"	"	2.70	
Iron	@	2.00	"	"	1.80	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$58.30	$17.40

Bridge & Weir.

Sta. 596–92. Width 20 ft. Depth 5 ft. Length 32 ft. 30%.

Lumber 7,200 ft.	@	$25.00	per M	$255.00
Carpenter Work	@	7.00	" "	71.40
Hauling	@	3.00	" "	30.60
Iron	@	2.00	" "	20.40
Nails	@	.30	" "	3.10
Earth Work				120.00
				$550.00

$150.10

1981

Bridge.

Sta. 596–92. Part of Weir. Width 16 ft. 30%

Lumber 2,680 ft.	@	$25.00	per M	$67.00
Carpenter Work	@	7.00	" "	18.90
Hauling	@	3.00	" "	8.10
Iron	@	2.00	" "	5.40
Nails	@	.30	" "	.80
				$100.20

$30.00

Sidegate.

Sta. 602–49. Width 2 ft. Depth 4 ft. Length 19 ft. 40%.

Lumber 888 ft.	@	$25.00	per M	$22.20
Carpenter Work	@	7.00	" "	6.20
Hauling	@	3.00	" "	2.60
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$58.30

$23.30

Sidegate.

Sta. 604–34. Width 2 ft. Depth 3 ft. Length 19 ft. 30%.

Lumber 693 ft.	@	$25.00	per M	$17.40
Carpenter Work	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$51.30

$15.40

1982 **Sidegate.**

Sta. 610–23. Width 2 ft. Depth 3 ft. Length 19 ft. 30%.

Same as Station 604–34.					$51.30	$15.40

Drain.

Sta. 610–65. Width 4 ft. Depth 4 ft. Length 60 ft. 30%.

Lumber 3,206 ft.	@	$25.00	per	M	$80.20	
Carpenter Work	@	7.00	"	"	22.40	
Hauling	@	3.00	"	"	9.60	
Iron	@	2.00	"	"	6.40	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$144.10	$43.20

Sidegate.

Sta. 613–28. Width 50". Depth 4 ft. Length 19 ft. 40%.

Lumber 1,215 ft.	@	$25.00	per	M	$30.40	
Carpenter Work	@	7.00	"	"	8.40	
Hauling	@	3.00	"	"	3.60	
Iron	@	2.00	"	"	2.40	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$70.30	$28.10

Sidegate.

Sta. 615–72. Width 4 ft. Depth 3 ft. Length 20 ft. 20%.

Lumber 872 ft.	@	$25.00	per	M	$21.80	
Carpenter Work	@	7.00	"	"	6.30	
Hauling	@	3.00	"	"	2.70	
Iron	@	2.00	"	"	1.80	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$58.10	$11.62

1983 **Sidegate.**

Sta. 620–82. Width 50". Depth 54". Length 19 ft. 30%.

Lumber 1,157 ft.	@	$25.00	per	M	$38.90	
Carpenter Work	@	7.00	"	"	8.20	
Hauling	@	3.00	"	"	3.60	
Iron	@	2.00	"	"	2.40	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$88.60	$26.60

Sidegate.

Sta. 629–27. Width 4 ft. Depth 43". Length 19 ft. 20%.

Lumber 1,085 ft.	@	$25.00	per M	$25.30
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$64.00

$12.80

Sidegate.

Sta. 630–77. Width 4 ft. Depth 3 ft. Length 20 ft. 20%.

Lumber 777 ft.	@	$25.00	per M	$19.40
Carpenter Work	@	7.00	" "	5.40
Hauling	@	3.00	" "	2.20
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$54.10

$10.80

1984

Sidegate.

Sta. 636–37. Width 2 ft. Depth 30". Length 19 ft. 20%.

Lumber 678 ft.	@	$25.00	per M	$17.00
Carpenter Work	@	7.00	" "	4.70
Hauling	@	3.00	" "	2.00
Iron	@	2.00	" "	1.30
Nails	@	.30	" "	.50
Earth Work				25.00
				$40.50

$8.10

Sidegate.

Sta. 639–59. Width 2 ft. Depth 4 ft. Length 19 ft. 20%.

Lumber 816 ft.	@	$25.00	per M	$20.40
Carpenter Work	@	7.00	" "	5.70
Hauling	@	3.00	" "	2.50
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.70

$11.40

Sidegate.

Sta. 645–71. Width 2 ft. Depth 4 ft. Length 19 ft. 30%.

Lumber 826 ft.	@	$25.00	per M	$20.60
Carpenter Work	@	7.00	" "	5.70
Hauling	@	3.00	" "	2.50
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.90

$15.60

1985 **Sidegate.**

Sta. 648–62. Width 2 ft. Depth 42". Length 19 ft. 30%.

Lumber 815 ft.	@	$25.00	per M	$20.40
Carpenter Work	@	7.00	" "	5.60
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$65.50

$19.60

Sidegate.

Sta. 652–06. Width 8 ft. Depth 4 ft. 8". Length 19 ft. 20%.

Lumber 1,714 ft.	@	$25.00	per M	$42.80
Carpenter Work	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$88.30

$17.70

Sidegate.

Sta. 652–71. Width 2 ft. Depth 3 ft. Length 19 ft. 20%

Lumber 714 ft.	@	$25.00	per M	$17.80
Carpenter Work	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$51.70

$10.30

1986 **Weir.**

Sta. 653–11. Width 18 ft. Depth 60″. Length 40 ft. 30%

Same as Station 17–09.					$586.30	$175.90

Sidegate.

Sta. 653–16. Width 2 ft. Depth 3 ft. Length 19 ft. 20%.

Lumber 612 ft.	@	$25.00	per	M	$15.30	
Carpenter Work	@	7.00	"	"	4.30	
Hauling	@	3.00	"	"	1.90	
Iron	@	2.00	"	"	1.20	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$48.20	$9.60

Sidegate.

Sta. 665–12. Width 2 ft. Depth 3 ft. Length 19 ft. 30%.

Same as Station 663–15.					$48.20	$14.40

Bridge.

Sta. 665–66. Width 18 ft. Length 32 ft. 30%

Lumber 3,638 ft.	@	$25.00	per	M	$90.90	
Carpenter Work	@	7.00	"	"	25.20	
Hauling	@	3.00	"	"	10.80	
Iron	@	2.00	"	"	7.20	
Nails	@	.30	"	"	1.10	
Earth Work					25.00	
					$160.20	$48.00

1987 **Sidegate.**

Sta. 666–77. Width 2 ft. Depth 3 ft. Length 19 ft. 20%.

Lumber 612 ft.	@	$25.00	per	M	$15.30	
Carpenter Work	@	7.00	"	"	4.30	
Hauling	@	3.00	"	"	1.80	
Iron	@	2.00	"	"	1.20	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$48.10	**$9.60**

Sidegate.

Sta. 669–84. Width 8 ft. Depth 40″. Length 19 ft. 30%.

Lumber 1,474 ft...@	$25.00 per M	$36.80	
Carpenter Work....@	7.00 " "	10.50	
Hauling .....@	3.00 " "	4.50	
Iron .....@	2.00 " "	3.00	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$80.30	$24.10

Sidegate.

Sta. 670–43. Width 8 ft. Depth 42″. Length 19 ft. 20%.

Same as Station 669–84.....	$80.30	$16.00

Weir.

Sta. 671–09. Width 18 ft. Depth 5 ft. Length 40 ft. 30%.

Same as Station 17–09.....	$586.30	$175.90

1988

Sidegate.

Sta. 687–22. Width 2 ft. Depth 42″. Length 19 ft. 20%.

Lumber 912 ft.....@	$25.00 per M	$22.80	
Carpenter Work....@	7.00 " "	6.40	
Hauling .....@	3.00 " "	2.70	
Iron .....@	2.00 " "	1.80	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$59.20	$11.80

Sidegate.

Sta. 678–64. Width 4 ft. Depth 30″. Length 19 ft. 30%.

Lumber 981 ft.....@	$25.00 per M	$24.50	
Carpenter Work....@	7.00 " "	6.90	
Hauling .....@	3.00 " "	2.90	
Iron .....@	2.00 " "	1.90	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$61.70	$18.50

Sidegate, New Lateral.

Sta. 679–36. Width 20 ft. Depth 54″. Length 20 ft. New.

Lumber, 3,482 ft. . .	@	$25.00	per M	$87.00	
Carpenter Work. . . .	@	7.00	" "	24.50	
Hauling	@	3.00	" "	10.50	
Iron	@	2.00	" "	7.00	
Nails	@	.30	" "	1.10	
Earth Work.				25.00	
				$155.10	$—

1989 Sidegate.

Sta. 680–24. Width 8 ft. Depth 4 ft. Length 19 ft. 20%.

Lumber 2,005 ft. . .	@	$25.00	per M	$62.60	
Carpenter Work. . . .	@	7.00	" "	17.50	
Hauling	@	3.00	" "	7.50	Obsolete
Iron	@	2.00	" "	5.00	
Nails	@	.30	" "	.70	
Earth Work.				25.00	
				$118.30	$23.70

Weir.

Sta. 680–90. Width 18 ft. Depth 5 ft. Length 22 ft. 30%.

Lumber 8,600 ft. . .	@	$25.00	per M	$215.00	
Carpenter Work. . . .	@	7.00	" "	60.20	
Hauling	@	3.00	" "	25.80	
Iron	@	2.00	" "	17.20	
Nails	@	.30	" "	2.60	
Earth Work.				120.00	
				$440.80	$132.24

Sidegate.

Sta. 684–74. Width 8 ft. Depth 4 ft. Length 18 ft. 30%.

Lumber 1,607 ft. . .	@	$25.00	per M	$40.10	
Carpenter Work. . . .	@	7.00	" "	11.20	
Hauling	@	3.00	" "	4.80	
Iron	@	2.00	" "	3.20	
Nails	@	.30	" "	.50	
Earth Work.				25.00	
				$84.80	$25.40

1990 Sidegate.

Sta. 685–91. Width 4 ft. Depth 4 ft. Length 20 ft. 20%.

Lumber 1,077 ft. . .	@	$25.00	per M	$26.90
Carpenter Work. . . .	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work.				25.00
				$65.60 $13.10

Sidegate.

Sta. 691–70. Width 8 ft. Depth 40". Length 19 ft. 40%.

Lumber 1,548.	@	$25.00	per M	$38.70
Carpenter Work. . . .	@	7.00	" "	13.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work.				25.00
				$85.40 $34.10

Sidegate.

Sta. 688–77. Width 8 ft. Depth. 4 ft. Length 19 ft. 30%.

Lumber 1,670 ft. . .	@	$25.00	per M	$41.80
Carpenter Work. . . .	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.60
Earth Work.				25.00
				$86.80 $26.00

1991 Sidegate.

Sta. 697–11. Width 4 ft. Depth 4 ft. Length 20 ft. 20%.

Lumber 1,029 ft. . .	@	$25.00	per M	$25.70
Carpenter Work. . . .	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work.				25.00
				$63.20 $12.50

Sidegate.

Sta. 688–14. Width 2 ft. Depth 4 ft. Length 20 ft. 20%.

Lumber 809 ft.	@ $25.00 per M	$22.50	
Carpenter Work. . . .	@ 7.00 " "	6.30	
Hauling	@ 3.00 " "	2.70	
Iron	@ 2.00 " "	1.80	
Nails	@ .30 " "	.50	
Earth Work.		25.00	
		$58.80	$11.70

Weir.

Sta. 698–90. Width 18 ft. Depth 60". Length 40 ft. 30%

Lumber 12,666 ft. .	@ $25.00 per M	$316.70	
Carpenter Work. . . .	@ 7.00 " "	88.90	
Hauling	@ 3.00 " "	38.10	
Iron	@ 2.00 " "	25.40	
Nails	@ .30 " "	3.90	
Earth Work		120.00	
		$583.00	$178.00

1992 Sidegate.

Sta. 704–42. Width 2 ft. Depth 3 ft. Length 20 ft. 10%

Lumber 707 ft.	@ $25.00 per M	$17.60	
Carpenter Work . .	@ 7.00 " "	4.90	
Hauling	@ 3.00 " "	2.10	
Iron	@ 2.00 " "	1.40	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$51.50	$5.10

Sidegate.

Sta. 708–96. Width 8 ft. Depth 4 ft. Length 20 ft. 30%

Lumber 1,665 ft. . .	@ $25.00 per M	$41.60	
Carpenter Work . .	@ 7.00 " "	11.90	
Hauling	@ 3.00 " "	5.10	
Iron	@ 2.00 "	3.40	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$87.50	$26.20

Sidegate.

Sta. 711–93. Width 2 ft. Depth 40″. Length 19 ft. 20%

Lumber 741 ft.	@	$25.00	per M	$18.50
Carpenter Work	@	7.00	" "	5.20
Hauling	@	3.00	" "	2.20
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$52.80 $10.50

1993 Sidegate.

Sta. 713–35. Width 2 ft. Depth 3 ft. Length 19 ft. 20%

Lumber 692 ft.	@	$25.00	per M	$17.30
Carpenter Work	@	7.00	" "	4.80
Hauling	@	3.00	" "	2.00
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$51.00 $10.20

Sidegate.

Sta. 719–16. Width 2 ft. Depth 3 ft. Length 20 ft. 20%

Lumber 705 ft.	@	$25.00	per M	$17.60
Carpenter Work	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$51.50 $10.30

Bridge.

Sta. 722–10. Width 16 ft. Length 38 ft. 30%

Lumber 3,694 ft.	@	$25.00	per M	$92.40
Carpenter Work	@	7.00	" "	25.90
Hauling	@	3.00	" "	11.10
Iron	@	2.00	" "	7.40
Nails	@	.30	" "	1.10
Earth Work				25.00
				$162.90 $48.90

1994 Sidegate.

Sta. 724–16. Width 3 ft. Depth 3 ft. Length 20 ft. 20%

Lumber 651 ft....@	$25.00 per M	$16.20	
Carpenter Work ..@	7.00 " "	4.50	
Hauling .....@	3.00 " "	1.90	
Iron .....@	2.00 " "	1.30	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$49.40	$9.90

Sidegate.

Sta. 725–59. Width 4 ft. Depth 46". Length 29 ft. 20%

Lumber 939 ft....@	$25.00 per M	$23.50	
Carpenter Work ...@	7.00 " "	6.50	
Hauling .....@	3.00 " "	2.80	
Iron .....@	2.00 " "	1.80	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$60.10	$12.00

Sidegate.

Sta. 725–75. Width 6 ft. Depth 3 ft. Length 20 ft. 20%

Lumber 1,322 ft...@	$25.00 per M	$33.00	
Carpenter Work ..@	7.00 " "	9.10	
Hauling .....@	3.00 " "	3.90	
Iron .....@	2.00 " "	2.60	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$74.10	$14.80

1995 Weir.

Sta. 726–49. Width 18 ft. Depth 52". Length 32 ft. 30%

Lumber 10,000 ft..@	$25.00 per M	$250.00	
Carpenter Work ..@	7.00 " "	70.00	
Hauling .....@	3.00 " "	30.00	
Iron .....@	2.00 " "	20.00	
Nails .....@	.30 " "	3.00	
Earth Work		120.00	
		$493.00	$148.00

Sidegate.

Sta. 732–93. Width 4 ft. Depth 3 ft. Length 20 ft. 30%

Lumber 841 ft.	@	$25.00	per M	$21.00
Carpenter Work	@	7.00	" "	5.90
Hauling	@	3.00	" "	2.60
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$56.80 $17.00

Sidegate.

Sta. 736–44. Width 4 ft. Depth 3 ft. Length 20 ft. 30%

Lumber 829 ft.	@	$25.00	per M	$20.70
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$57.00 $17.10

1996

Sidegate.

Sta. 738–86. Width 4 ft. Depth 3 ft. Length 21 ft. 30%

Lumber 861 ft.	@	$25.00	per M	$21.50
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.80 $16.70

Sidegate.

Sta. 743–26. Width 4 ft. Depth 3 ft. Length 20 ft. 30%

Lumber 905 ft.	@	$25.00	per M	$22.60
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$58.90 $17.70

Sidegate.

Sta. 741–27. Width 4 ft. Depth 4 ft. Length 20 ft 20%

Lumber 1,109 ft...@	$25.00 per M	$27.70	
Carpenter Work ..@	7.00 " "	7.70	
Hauling .....@	3.00 " "	3.30	
Iron .....@	2.00 " "	2.20	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$66.40	$13.30

1997 Drain.

Sta. 747–38. Width 2 ft. Depth 4 ft. Length 60 ft. 50%

Lumber 2,292 ft...@	$25.00 per M	$57.30	
Carpenter Work ..@	7.00 " "	16.10	
Hauling .....@	3.00 " "	6.90	
Iron .....@	2.00 " "	4.60	
Nails .....@	.30 " "	.70	
Earth Work		25.00	
		$110.60	$55.30

Sidegate.

Sta. 751–37. Width 24". Depth 3 ft. Length 20 ft. 20%

Lumber 690 ft.....@	$25.00 per M	$17.50	
Carpenter Work ..@	7.00 " "	4.90	
Hauling .....@	3.00 " "	2.10	
Iron .....@	2.00 " "	1.40	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$51.40	$10.30

Sidegate.

Sta. 752–30. Width 4 ft. Depth 4 ft. Length 20 ft. 20%

Lumber 1,069 — ..@	$25.00 per M	$26.80	
Carpenter Work ..@	7.00 " "	7.70	
Hauling .....@	3.00 " "	3.30	
Iron .....@	2.00 " "	2.20	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$65.50	$13.10

1998 Sidegate.

Sta. 753–37. Width 3 ft. Depth 3 ft. Length 20 ft. 30%

Lumber 748 ft.	@	$25.00	per M	$18.70
Carpenter Work	@	7.00	" "	5.20
Hauling	@	3.00	" "	2.20
Iron	@	2.00	" "	1.50
Nails	@	.30	" "	.50
Earth Work				25.00
				$53.10 $15.90

Bridge & Gate.

Sta. 756–35. Width 16 ft. Depth 64". Length 20 ft. 40%

Lumber 10,058 ft.	@	$25.00	per M	$251.50
Carpenter Work	@	7.00	" "	70.00
Hauling	@	3.00	" "	30.00
Iron	@	2.00	" "	20.00
Nails	@	.30	" "	3.00
Earth Work				25.00
				$399.50 $159.80

Bridge.

Sta. 761–81. Width 16 ft. Length 16 ft.

Lumber 2,064 ft.	@	$25.00	per M	$51.60
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.60
Earth Work				25.00
				$102.40 $51.20

1999 Bridge & Gate.

Sta. 767–34 Width 12 ft. Length 20 ft. Depth 6 ft. 40%

Lumber 2,684 ft.	@	$25.00	per M	$67.10
Carpenter Work	@	7.00	" "	18.90
Hauling	@	3.00	" "	8.10
Iron	@	2.00	" "	5.40
Nails	@	.30	" "	.80
Earth Work				25.00
				$125.30 $51.10

Merced County.

Total Cost of Structures	$12,885.70
Total Depreciation	4,405.80
Present Value	$8,479.90

2000 Main Canal, Merced Co.

Sidegate.

Sta. 1132–73. Width 72". Depth 72". Length 26 ft. 40%

Lumber 1,969 ft.	at $25.00 per M	$49.20	
Carpenter Work	at 7.00 " "	14.00	
Hauling	at 3.00 " "	6.00	
Iron	at 2.00 " "	4.00	
Nails	at .30 " "	.60	
Earth Work		25.00	
		$98.80	$39.50

Gate in Center Bank.

Sta. 1152–26. Obsolete 100%

Sidegate.

Sta. 1153–28. Width 72". Depth 48". Length 24 ft. 30%

Lumber 1,469 ft.	at $25.00 per M	$36.80	
Carpenter Work	at 7.00 " "	10.50	
Hauling	at 3.00 " "	4.50	
Iron	at 2.00 " "	3.00	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$80.30	$24.10

Sidegate.

Sta. 1216–54. Width 96". Depth 66". Length 18 ft. 50%.

Lumber 1,857 ft.	at $25.00 per M	$46.40	
Carpenter Work	at 7.00 " "	13.30	
Hauling	at 3.00 " "	5.70	
Iron	at 2.00 " "	3.80	
Nails	at .30 " "	.60	
Earth Work		25.00	
		$94.80	$47.40

2001 Weir.

Sta. 1218–47. Width 16 ft. Depth 84″. Length 40 ft. 80%.

Lumber 12,648 ft.	at	$25.00	per M	$316.20
Carpenter Work	at	7.00	" "	38.50
Hauling	at	3.00	" "	37.90
Iron	at	2.00	" "	25.30
Nails	at	.30	" "	3.80
Earth Work				120.00
				$591.70

$473.40

Drainage Gate.

Sta. 1276–26. Width 12 ft. Depth 72″. Length 35 ft. 60%.

Lumber 2,812 ft.	at	$25.00	per M	$70.30
Carpenter Work	at	7.00	" "	19.60
Hauling	at	3.00	" "	8.40
Iron	at	2.00	" "	5.60
Nails	at	.30	" "	.80
Earth Work				25.00
				$129.70

$77.80

2002 Sidegate.

Sta. 1335–34. Width 10 ft. 6″. Depth 4 ft. 4″. Length 36 ft.

Depr. 90%.

Lumber 1,972 ft.	at	$25.00	per M	$49.30
Carpenter Work	at	7.00	" "	14.00
Hauling	at	3.00	" "	6.00
Iron	at	2.00	" "	4.00
Nails	at	.30	" "	.60
Earth Work				25.00
				98.90

$89.00

Sidegate.

Sta. 1334–63. Width 12 ft. Depth 24″. Length 20 ft. 20% Depr.

Lumber 292 ft.	at	$25.00	per M	$47.30
Carpenter Work	at	7.00	" "	2.10
Hauling	at	3.00	" "	.90
Iron	at	2.00	" "	.60
Nails	at	.30	" "	.50
Earth Work				25.00
				$36.40

$7.30

Weir.

Sta. 1335–78. Width 24 ft. Depth 8 ft. Length 50 ft. 90%.

			Depr.
Lumber 16,500 ft...at	$25.00 per M	$412.50	
Carpenter Work.....at	7.00 " "	115.50	
Hauling .....at	3.00 " "	49.50	
Iron .....at	2.00 " "	33.00	
Nails .....at	.30 " "	4.90	
Earth Work.....		120.00	
		$735.40	$651.90

2003 **Spillway.**

Sta. 1335–85. Width 16 ft. Depth 12 ft. Length 36 ft. 70%.

Lumber 15,500 ft...at	$25.00 per M	$387.50	
Carpenter Work....at	7.00 " "	108.50	
Hauling .....at	3.00 " "	46.50	
Iron .....at	2.00 " "	31.00	
Nails .....at	.30 " "	4.60	
Earth Work.....		120.00	
		698.10	$488.70

Weir.

Sta. 1336–21. Width 20 ft. Depth 8 ft. Length 46 ft. 90%.

Lumber 13,500 ft...at	$25.00 per M	$337.50	
Carpenter Work....at	7.00 " "	94.50	
Hauling .....at	3.00 " "	40.50	
Iron .....at	2.00 " "	27.00	
Nails .....at	.30 " "	4.10	
Earth Work.....		120.00	
		623.00	$560.80

Weir.

Sta. 1336–57. Width 16 ft. Depth 76". Length 37 ft. 70%.

Lumber 12,600 ft...at	$25.00 per M	$315.00	
Carpenter Work....at	7.00 " "	88.20	
Hauling .....at	3.00 " "	37.80	
Iron .....at	2.00 " "	25.20	
Nails .....at	.30 " "	3.80	
Earth Work.....		120.00	
		$590.00	$413.00

2004 Sidegate.

Sta. 1370–43 Width 33". Depth 42". Length 22 ft. 60%

Lumber 731 ft.	at	$25.00	per	M	$18.20
Carpenter Work	at	7.00	"	"	5.10
Hauling	at	3.00	"	"	2.20
Iron	at	2.00	"	"	1.40
Nails	at	.30	"	"	.50
Earth Work					25.00
					$52.40

$31.40

Sidegate.

Sta. 1418–85. Width 42". Depth 48". Length 24 ft. 60%

Lumber 1,136 ft.	at	$25.00	per	M	$28.40
Carpenter Work	at	7.00	"	"	7.70
Hauling	at	3.00	"	"	3.30
Iron	at	2.00	"	"	2.20
Nails	at	.30	"	"	.50
Earth Work					25.00
					$67.50

$40.20

Sidegate.

Sta. 1434–89. Width 40". Depth 52". Length 20 ft. 60%

Lumber 962 ft.	at	$25.00	per	M	$24.10
Carpenter Work	at	7.00	"	"	6.70
Hauling	at	3.00	"	"	2.90
Iron	at	2.00	"	"	1.90
Nails	at	.30	"	"	.50
Earth Work					25.00
					$61.10

$36.60

2005 Sidegate.

Sta. 1452–58. Width 42". Depth 42". Length 25 ft. 60%

Lumber 909 ft.	at	$25.00	per	M	$22.70
Carpenter Work	at	7.00	"	"	6.30
Hauling	at	3.00	"	"	2.70
Iron	at	2.00	"	"	1.80
Nails	at	.30	"	"	.50
Earth Work					25.00
					$59.00

$35.40

Sidegate.

Sta. 1494–24. Width 40″. Depth 22″. Length 26 ft. 60%

Lumber 756 ft. ....at	$25.00	per M	$18.90
Carpenter Work....at	7.00	" "	5.60
Hauling .....at	3.00	" "	2.10
Iron .....at	2.00	" "	1.40
Nails .....at	.30	" "	.50
Earth Work			25.00
			$53.50 $32.10

Bridge.

Sta. 1507. Width 16 ft. Depth —. Length 135 ft. 90%

Lumber 4,714 ft....at	$25.00	per M	$117.80
Carpenter Work....at	7.00	" "	32.90
Hauling .....at	3.00	" "	14.10
Iron .....at	2.00	" "	9.40
Nails .....at	.30	" "	1.40
Earth Work			25.00
			$200.60 $180.50

2006 Bridge.

Sta. 1507. Width 16 ft. Length 16 ft. 60%

Lumber 1,338 ft....at	$25.00	per M	$33.40
Carpenter Work....at	7.00	" "	9.10
Hauling .....at	3.00	" "	3.90
Iron .....at	2.00	" "	2.60
Nails .....at	.30	" "	.50
Earth Work			25.00
			$74.50 $44.70

Sidegate.

Sta. 1511. Width 48″. Depth 44″. Length 26 ft. 60%

Lumber 1,281 ft....at	$25.00	per M.	$32.50
Carpenter Work....at	7.00	" "	9.10
Hauling .....at	3.00	" "	3.90
Iron .....at	2.00	" "	2.60
Nails .....at	.30	" "	.50
Earth Work			25.00
			$73.60 $44.20

Sidegate.

Sta. 1570–80. Width 85". Depth 58". Length 26 ft. 50%

Lumber 2,072 ft....at	$25.00 per M	$51.80	
Carpenter Work ...at	7.00 " "	14.70	
Hauling .....at	3.00 " "	6.30	
Iron .....at	2.00 " "	4.20	
Nails .....at	.30 " "	.60	
Earth Work		25.00	
		$102.60	$51.30

2007

Sidegate.

Sta. 1530–11. Width 30". Depth 36". Length 23 ft. 60%

Lumber 655 ft.....at	$25.00 per M	$16.40	
Carpenter Work....at	7.00 " "	4.90	
Hauling .....at	3.00 " "	2.10	
Iron .....at	2.00 " "	1.40	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$50.30	$30.20

Sidegate.

Sta. 1625–22. Width 42". Depth 54". Length 26 ft. 80%

Lumber 1,143 ft....at	$25.00 per M	$28.60	
Carpenter Work....at	7.00 " "	7.70	
Hauling .....at	3.00 " "	3.30	
Iron .....at	2.00 " "	2.20	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$67.30	$53.80

Sidegate.

Sta. 1633–90 Width 126". Depth —. Length 5–. 100%

Lumber 2,000 ft....at	$25.00 per M	$50.00	
Carpenter Work....at	7.00 " "	14.00	
Hauling .....at	3.00 " "	6.00	
Iron .....at	2.00 " "	4.00	
Nails .....at	.30 " "	.60	
Earth Work		25.00	
		$99.60	$99.60

2008 Bridge (Side-bridge).

Sta. 1634–42. Width 16 ft. Length 16 ft. 40%

Lumber 13,038 ft. . . at	$25.00	per M	$33.40
Carpenter Work . . . . at	7.00	" "	9.10
Hauling . . . . . at	3.00	" "	3.90
Iron . . . . . at	2.00	" "	2.60
Nails . . . . . at	.30	" "	.50
Earth Work			25.00
			$74.50 $29.80

Bridge.

Sta. 1634–52. Width 14 ft. Length 53 ft. 60%

Lumber 3,961 ft. . . . at	$25.00	per M	$99.00
Carpenter Work . . . . at	7.00	" "	28.00
Hauling . . . . . at	3.00	" "	12.00
Iron . . . . . at	2.00	" "	8.00
Nails . . . . . at	.30	" "	1.20
Earth Work			25.00
			$173.20 $103.90

Bridge.

Sta. 1634–52. Width 14 ft. Length 56 ft.

Lumber 4,186 ft. . . . at	$25.00	per M	$104.60
Carpenter Work . . . at	7.00	" "	29.40
Hauling . . . . . at	3.00	" "	12.60
Iron . . . . . at	2.00	" "	8.40
Nails . . . . . at	.30	" "	1.30
Earth Work			25.00
			$181.00 $108.80

2009 Sidegate.

Sta. 1646–07. Width 60". Depth 60". Length 34 ft. 80%

Lumber 2,191 ft. . . . at	$25.00	per M	$54.70
Carpenter Work . . . . at	7.00	" "	15.40
Hauling . . . . . at	3.00	" "	6.60
Iron . . . . . at	2.00	" "	4.40
Nails . . . . . at	.30	" "	.70
Earth Work			25.00
			$106.80 $84.80

Sidegate.

Sta. 1685. Width 41". Depth 42". Length 24 ft. 80%

Lumber 826 ft.	at	$25.00	per M	$20.60
Carpenter Work	at	7.00	" "	5.60
Hauling	at	3.00	" "	2.40
Iron	at	2.00	" "	1.60
Nails	at	.30	" "	.50
Earth Work				25.00
				$55.70

$44.60

Sidegate.

Sta. 1688–30. Width 9 ft. Length 5–. 100%

Lumber 2,200 ft.	at	$25.00	per M	$55.00
Carpenter Work	at	7.00	" "	15.40
Hauling	at	3.00	" "	6.60
Iron	at	2.00	" "	4.40
Nails	at	.30	" "	.70
Earth Work				25.00
				$107.10

$107.10

2010 Sidegate (Drain).

Sta. 1693–? Width 9 ft. Depth —. Length 5–. 100%

Lumber 2,200 ft.	at	$25.00	per M	$55.00
Carpenter Work	at	7.00	" "	15.40
Hauling	at	3.00	" "	6.60
Iron	at	2.00	" "	4.40
Nails	at	.30	" "	.70
Earth Work				25.00
				$107.10

$107.10

Sidegate.

Sta. 1702–70. Width 68". Depth 52". Length 27 ft. 20%

Lumber 1,771 ft.	at	$25.00	per M	$44.30
Carpenter Work	at	7.00	" "	12.60
Hauling	at	3.00	" "	5.40
Iron	at	2.00	" "	3.60
Nails	at	.30	" "	.50
Earth Work				25.00
				$91.40

$18.30

Bridge, Left.

Sta. 1703–55.	Width 16 ft.	Length 58 ft.	60%
Lumber 4,857 ft....at	$25.00 per M	$121.40	
Carpenter Work ...at	7.70 " "	33.60	
Hauling .....at	3.00 " "	14.40	
Iron .....at	2.00 " "	9.60	
Nails .....at	.30 " "	1.40	
Earth Work		25.00	
		$205.40	$164.30

2011 Bridge (Right).

Sta. 1703–55.	Width 18 ft.	Length 60 ft.	60%
Lumber 7,415 ft....at	$25.00 per M	$185.40	
Carpenter Work ...at	7.00 " "	51.80	
Hauling .....at	3.00 " "	22.20	
Iron .....at	2.00 " "	14.80	
Nails .....at	.30 " "	2.20	
Earth Work		25.00	
		$301.40	$280.80

Bridge.

Sta. 1703–55.	Width 18 ft.	Length 16 ft.	60%
Lumber 1,632 ft....at	$25.00 per M	$40.80	
Carpenter Work ...at	7.00 " "	11.20	
Hauling .....at	3.00 " "	4.80	
Iron .....at	2.00 " "	3.20	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$85.50	$51.30

Gate &n Ce*b*ter Bank.

Sta. 1707–07.	Wi-th 66".	Depth 90".	Length 33 ft.	100%
Lumber 1,901 ft....at	$25.00 per M		$57.50	
Carpenter Work ...at	7.00 " "		13.30	
Hauling .....at	3.00 " "		5.70	
Iron .....at	2.00 " "		3.80	Obsolete
Nails .....at	.30 " "		.60	
Earth Work			25.00	
			$95.90	$95.90

2012 Sidegate.

Sta. 1707–41. Width 60″. Depth 60″. Length 28 ft. 50%

Lumber 1,693 ft....at	$25.00 per M	$42.30	
Carpenter Work ...at	7.00 " "	11.90	
Hauling .....at	3.00 " "	5.10	
Iron .....at	2.00 " "	3.40	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$88.20	$44.10

Sidegate.

Sta. 1707–49. Width 60″. Depth 66″. Length 28 ft. 50%

Lumber 907 ft.....at	$25.00 per M	$22.50	
Carpenter Work ...at	7.00 " "	6.30	
Hauling .....at	3.00 " "	2.70	
Iron .....at	2.00 " "	1.80	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$58.80	$17.60

Sidegate.

Sta. 1721–96. Width 66″. Depth 60″. Length 26 ft. 20%

Lumber 1,617 ft....at	$25.00 per M	$40.40	
Carpenter Work ...at	7.00 " "	11.20	
Hauling .....at	3.00 " "	4.80	
Iron .....at	2.00 " "	3.20	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$85.10	$17.10

2013 Drain.

Sta. 1727–51. Width 11 ft. Depth —. Length 20—. 100%

Lumber 20,400 ft...at	$25.00 per M	$60.00	
Carpenter Work ...at	7.00 " "	16.80	
Hauling .....at	3.00 " "	7.20	
Iron .....at	2.00 " "	4.80	
Nails .....at	.30 " "	.70	
Earth Work		25.00	
		$114.50	$114.50

Sidegate.

Sta. 1735–31. Width 60″. Depth 66″. Length 20 ft. 40%

Lumber 1,864 ft. . . . at	$25.00 per M	$41.60	
Carpenter Work . . . at	7.00 " "	11.90	
Hauling . . . . . at	3.00 " "	5.10	
Iron . . . . . at	2.00 " "	3.40	
Nails . . . . . at	.30 " "	.50	
Earth Work		25.00	
		$87.50	$35.00

Sidegate.

Sta. 1751–60. Width 48″. Depth 48″. Length 23 ft. 60%

Lumber 1,189 ft. . . . at	$25.00 per M	$29.70	
Carpenter Work . . . at	7.00 " "	8.40	
Hauling . . . . . at	3.00 " "	3.60	
Iron . . . . . at	2.00 " "	2.40	
Nails . . . . . at	.30 " "	.50	
Earth Work		25.00	
		$69.60	$42.10

2014 Sidegate.

Sta. 1767–07. Width 66″. Depth 74″. Length 9–20–6 ft. 50%

Lumber 2,202 ft. . . . at	$25.00 per M	$55.00	
Carpenter Work . . . at	7.00 " "	16.10	
Hauling . . . . . at	3.00 " "	6.90	
Iron . . . . . at	2.00 " "	4.60	
Nails . . . . . at	.30 " "	.70	
Earth Work		25.00	
		$108.30	$43.32

Bridge.

Width 16 ft. Length 16 ft. 50%

Lumber 1,468 ft. . . . at	$25.00 per M	$36.70	
Carpenter Work . . . at	7.00 " "	10.50	
Hauling . . . . . at	3.00 " "	4.50	
Iron . . . . . at	2.00 " "	3.00	
Nails . . . . . at	.30 " "	.50	
Earth Work		25.00	
		$80.20	$40.10

Weir.

Sta. 1768–47. Width 36 ft. Depth 9 ft. Length 52 ft. 80%

Lumber 15,500 ft...at	$25.00 per M	$387.50	
Carpenter Work ...at	7.00 " "	108.50	
Hauling .....at	3.00 " "	46.50	
Iron .....at	2.00 " "	31.00	
Nails .....at	.30 " "	4.60	
Earth Work		120.00	
		$698.10	$558.50

2015 Weir.

Sta. 1767–47. Width 24½ ft. Depth 7 ft. Length 36 ft. 80%

Lumber 12,914 ft...at	$25.00 per M	$322.80	
Carpenter Work ...at	7.00 " "	90.30	
Hauling .....at	3.00 " "	38.70	
Iron .....at	2.00 " "	25.80	
Nails .....at	.30 " "	3.80	
Earth Work		120.00	
		$601.00	$480.80

County Road Bridge.

Built by County.

Sta. 1790–47. Width —.

Gate in Center Bank.

Sta. 1803–67. Obsolete. 100%

Sidegate.

Sta. 1804–25. Width 70". Depth 60". Length 12–20. 60%

Lumber 1,232 ft....at	$25.00 per M	$30.80	
Carpenter Work ...at	7.00 " "	8.40	
Hauling .....at	3.00 " "	3.60	
Iron .....at	2.00 " "	2.40	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$70.70	$42.40

2016 **Sidegate.**

Sta. 1815–80. Width 29″. Depth 29″. Length 16–. 60%.

Lumber 686 ft.	at	$25.00	per M	$17.10
Carpenter Work	at	7.00	" "	4.90
Hauling	at	3.00	" "	2.10
Iron	at	2.00	" "	1.40
Nails	at	.30	" "	.50
Earth Work				25.00
				$51.00

$30.60

Sidegate.

Sta. 1818–74. Width 66″. Depth 66″. Length 30. 60%.

Lumber 2198 ft.	at	$25.00	per M	$54.90
Carpenter Work	at	7.00	" "	15.40
Hauling	at	3.00	" "	6.60
Iron	at	2.00	" "	4.40
Nails	at	.30	" "	.60
Earth Work				25.00
				$106.90

$64.10

Sidegate.

Sta. 1821–77. Width 47″. Depth 47″. Length 26 ft. 60%.

Lumber 1108 ft.	at	$25.00	per M	$27.70
Carpenter Work	at	7.00	" "	7.70
Hauling	at	3.00	" "	3.30
Iron	at	2.00	" "	2.20
Nails	at	.30	" "	.50
Earth Work				25.00
				$64.40

$39.80

2017 **Bridge.**

Sta. 1825–75. Width 16 ft. Length 50–58 ft. 60%.

Lumber 13457 ft.	at	$25.00	per M	$336.40
Carpenter Work	at	7.00	" "	293.80
Hauling	at	3.00	" "	40.20
Iron	at	2.00	" "	26.80
Nails	at	.30	" "	4.00
Earth Work				25.00
				$526.20

$315.70

Sidegate.

Sta. 1836–75. Width 64″. Depth 66″. Length 30 ft. 60%

Lumber 2175 ft.	at	$25.00	per	M	$54.40
Carpenter Work	at	7.00	"	"	15.40
Hauling	at	3.00	"	"	6.90
Iron	at	2.00	"	"	4.40
Nails	at	.30	"	"	.70
Earth Work					25.00
					$106.80

$64.1

Sidegate.

Sta. 1847–24. Width 72″. Depth 40″. Length 20 ft. 80%

Lumber 1003 —.	at	$25.00	per	M	$25.10
Carpenter Work	at	7.00	"	"	7.00
Hauling	at	3.00	"	"	3.00
Iron	at	2.00	"	"	2.00
Nails	at	.30	"	"	.50
Earth Work					25.00
					$62.60

$50.1

2018 **Sidegate.**

Sta. 1853–07. Width 48″. Depth 60″. Length 20–6 ft. 60%

Lumber 783 ft.	at	$25.00	per	M	$19.60
Carpenter Work	at	7.00	"	"	5.60
Hauling	at	3.00	"	"	2.40
Iron	at	2.00	"	"	1.60
Nails	at	.30	"	"	.50
Earth Work					25.00
					$54.70

$32.8

Sidegate.

Sta. 1854–68. Width 66″. Depth 64″. Length 36 ft. 60%

Lumber 1130 —.	at	$25.00	per	M	$28.20
Carpenter Work	at	7.00	"	"	7.70
Hauling	at	3.00	"	"	3.30
Iron	at	2.00	"	"	2.20
Nails	at	.30	"	"	.50
Earth Work					25.00
					$66.90

$40.1

Weir (old).

Sta. 1859–74. ..... 100%

Sidegate.

Sta. 1875–42. Width 48″. Depth 54″. Length 20 ft. 60%.

Lumber 633 ft.	at	$25.00	per M	$15.80
Carpenter Work	at	7.00	" "	4.90
Hauling	at	3.00	" "	2.10
Iron	at	2.00	" "	1.40
Nails	at	.30	" "	.50
Earth Work				25.00
				$49.70

$29.80

2019

Sidegate.

Sta. 1883–22. Width 66″. Depth 64″. Length 36 ft. 80%.

Lumber 1528 ft.	at	$25.00	per M	$38.20
Carpenter Work	at	7.00	" "	10.50
Hauling	at	3.00	" "	4.50
Iron	at	2.00	" "	3.00
Nails	at	.30	" "	.50
Earth Work				25.00
				$81.70

$49.00

Weir.

Sta. 1883–50. New Weir replacing old. 90%.

Estimated cost old Weir $590 $531.00

Gate in Center Bank.

Sta. 1884–05. Width 60″. Depth 72″. Length 36 ft. 90%

Lumber 1512 ft.	at	$25.00	per M	$37.80
Carpenter Work	at	7.00	" "	10.50
Hauling	at	3.00	" "	4.50
Iron	at	2.00	" "	3.00
Nails	at	.30	" "	.50
Earth Work				25.00
				$81.30

$73.20

2020 County Bridge.

Sta. 1884–61. Width 20 ft. Length 114 ft. 60%.

Lumber 11942 ft.	at	$25.00	per	M	$298.50
Carpenter Work	at	7.00	"	"	83.30
Hauling	at	3.00	"	"	35.70
Iron	at	2.00	"	"	23.80
Nails	at	.30	"	"	3.50
Earth Work					25.00
					$469.80

$281.90

Sidegate.

Sta. 1907–92. Width 74". Depth 60". Length 18 ft. 100%.

Lumber 1144 ft.	at	$25.00	per	M	$28.60
Carpenter Work	at	7.00	"	"	7.70
Hauling	at	3.00	"	"	3.30
Iron	at	2.00	"	"	2.20
Nails	at	.30	"	"	.50
Earth Work					25.00
					$67.30

$67.30

Sidegate.

Sta. 1927–44. Width 74". Depth 62". Length 144". 40%

Lumber 660 ft.	at	$25.00	"	"	$16.50
Carpenter Work	at	7.00	"	"	4.90
Hauling	at	3.00	"	"	2.10
Iron	at	2.00	"	"	1.40
Nails	at	.30	"	"	.50
Earth Work					25.00
					$50.40

$20.20

2021 Drain.

Sta. 1927–44. Width 16". Depth 3 ft. Length 140 ft. 50%.

Lumber 2142 ft.	at	$25.00	per	M	$53.50
Carpenter Work	at	7.00	"	"	15.40
Hauling	at	3.00	"	"	6.60
Iron	at	2.00	"	"	2.20
Nails	at	.30	"	"	.70
Earth Work					25.00
					$103.40

$51.70

Gate in Center Bank.

Sta. 1929–89. Obsolete. 100%

County Bridge.

Sta. 1930–11. Width 20 ft. Length 152 ft. 60%.

Lumber 18537 ft.	at	$25.00	per M	$463.40
Carpenter Work	at	7.00	" "	129.50
Hauling	at	3.00	" "	55.50
Iron	at	2.00	" "	37.00
Nails	at	.30	" "	5.50
Earth Work				25.00
				$715.90

$429.50

Sidegate.

Sta. 1929"81". Width 71". Depth 60". Length 24–. 30%

Lumber 1506 ft.	at	$25.00	per M	$37.60
Carpenter Work	at	7.00	" "	10.50
Hauling	at	3.00	" "	4.50
Iron	at	2.00	" "	3.00
Nails	at	.30	" "	.50
Earth Work				25.00
				$81.10

$24.30

2022

Sidegate.

Sta. 1970–45. Width 4 ft. Depth 5 ft. Length 20 ft. 30%.

Lumber 1,042 ft.	@	$25.00	Per M	$26.10
Carpenter Work	@	7.00	" "	7.30
Hauling	@	3.00	" "	3.10
Iron	@	2.00	" "	2.10
Nails	@	.30	" "	.50
Earth Work				25.00
				$64.10

$19.20

Sidegate.

Sta. 1986–14. Width 24". Depth 42". Length 6 ft. 30%

Lumber 1,351 ft.	@	$25.00	per M	$33.80
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$76.10

$22.80

Sidegate.

Sta. 1987–51. Width 11 ft 8". Depth 6 ft. Length 18 ft. 30%

Lumber 3,067	@	$25.00	per	M	$76.70
Carpenter Work	@	7.00	"	"	21.70
Hauling	@	3.00	"	"	9.30
Iron	@	2.00	"	"	6.20
Nails	@	.30	"	"	.90
Earth Work					25.00
					$139.80

$41.90

2023

Weir.

Sta. 1994–09. Width 20 ft. Depth 12 ft. 4". Length 32 ft. 60%.

Lumber 14,800 ft.	@	$25.00	per	M	$370.00
Carpenter Work	@	7.00	"	"	123.60
Hauling	@	3.00	"	"	44.40
Iron	@	2.00	"	"	29.60
Nails	@	.30	"	"	4.40
Earth Work					120.00
					$692.00

$415.20

Bridge & Weir.

Sta. 1995–29. Width 20 ft. Depth 14 ft. Length 56 ft. 90%.

Lumber 18,000 ft.	@	$25.00	per	M	$450.00
Carpenter Work	@	7.00	"	"	126.00
Hauling	@	3.00	"	"	54.00
Iron	@	2.00	"	"	36.00
Nails	@	.30	"	"	5.40
Earth Work					120.00
					$791.40

$712.30

Bridge.

Sta. 1995–25. Width 20 ft. Length 16 ft. 60%.

Lumber 2,517 ft.	@	$25.00	per	M	$62.90
Carpenter Work	@	7.00	"	"	17.50
Hauling	@	3.00	"	"	7.50
Iron	@	2.00	"	"	5.00
Nails	@	.30	"	"	.70
Earth Work					25.00
					$118.60

$71.20

2024 **Weir.**

Sta. 2006–31. Width 26 ft. Depth 118". Length 118 ft. 70%

Lumber 32,000 ft. ..	@	$25.00	per	M	$800.00
Carpenter Work	@	7.00	"	"	224.00
Hauling	@	3.00	"	"	96.00
Iron	@	2.00	"	"	64.00
Nails	@	.30	"	"	9.60
Earth Work					120.00
					$1313.60

$919.50

Weir.

Sta. 207–51. Width 6 ft. Depth 10 ft. Length 52 ft. 90%

Lumber 18,000 ft. ..	@	$25.00	per	M	$450.00
Carpenter Work	@	7.00	"	"	126.00
Hauling	@	3.00	"	"	54.00
Iron	@	2.00	"	"	36.00
Nails	@	.30	"	"	5.40
Earth Work					120.00
					$791.40

$712.30

Sidegate.

Sta. 2012–32. Width 62". Depth 74". Length 28 ft. 60%

Lumber 1,553 ft.	@	$25.00	per	M	$38.80
Carpenter Work	@	7.00	"	"	11.20
Hauling	@	3.00	"	"	4.80
Iron	@	2.00	"	"	3.20
Nails	@	.30	"	"	.50
Earth Work					25.00
					$83.50

$50.10

2025 **Sidegate.**

Sta. 2016–82. Width 60". Depth 66". Length 22 ft. 70%

Lumber 1,696 ft.	@	$25.00	per	M	$42.40
Carpenter Work	@	7.00	"	"	11.90
Hauling	@	3.00	"	"	5.10
Iron	@	2.00	"	"	3.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$88.30

$61.80

Sidegate.

Sta. 2046–. Width 4 ft. Depth 4 ft. Length 30 ft. 60%

Lumber 1,373 ft.	@	$25.00	per M	$34.30
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$76.50

$46.00

Bridge.

Sta. 2068– —. Width 16 ft. Length 76 ft. 80%

Lumber 8,422 ft.	@	$25.00	per M	$210.50
Carpenter Work	@	7.00	" "	58.80
Hauling	@	3.00	" "	25.20
Iron	@	2.00	" "	16.80
Nails	@	.70	" "	2.50
Earth Work				25.00
				$338.80

$271.10

2026 **Sidegate.**

Sta. 2069–59. Width 56". Depth 24". Length 26 ft. 60%.

Lumber 2,078 ft.	@	$25.00	per M	$51.90
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.60
Earth Work				25.00
				$102.70

$61.60

Sidegate.

Sta. 2093–42. Width 36". Depth 36". Length 28 ft. 70%.

Lumber 915 ft.	@	$25.00	per M	$22.90
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$59.20

$41.40

Sidegate.

Sta. 2098–62. Width 6 ft. Depth 86". Length 26 ft. 60%.

Lumber 6,130 ft. . . .	@	$25.00	per M	$61.30
Carpenter Work. . . .	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.70
Earth Work.				25.00
				$115.80 $69.50

2027 Bridge.

Sta. 2106–24. Width 16 ft. Length 64 ft. 90%.

Lumber 6,384 ft. . .	@	$25.00	per M	$159.60
Carpenter Work. . . .	@	7.00	" "	44.80
Hauling	@	3.00	" "	19.20
Iron	@	2.00	" "	12.80
Nails	@	.30	" "	1.90
Earth Work.				25.00
				$263.30 $237.00

Sidegate.

Sta. 2108–11. Width 68". Depth 68". Length 30 ft. 60%.

Lumber 1,858 ft. . . .	@	$25.00	per M	$46.50
Carpenter Work. . . .	@	7.00	" "	13.30
Hauling	@	3.00	" "	5.70
Iron	@	2.00	" "	3.80
Nails	@	.30	" "	.60
Earth Work.				25.00
				$94.90 $56.90

Bridge.

Sta. 2108–11. Width 16 ft. Length 20 ft. 70%.

Lumber 1,675 ft. . . .	@	$25.00	per M	$41.90
Carpenter Work. . . .	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work.				25.00
				$87.80 $61.50

2128 **Sidegate.**

Sta. 2111–99. Width 2 ft. Depth 3 ft. Length 39 ft. 70%.

Lumber 1,138 ft. . .	@	$25.00	per	M	$28.50
Carpenter Work. . . .	@	7.00	"	"	7.90
Hauling	@	3.00	"	"	3.40
Iron	@	2.00	"	"	2.30
Nails	@	.30	"	"	.50
Earth Work.					25.00
					$67.60 $47.30

Sidegate.

Sta. 2118–48. Width 52". Depth 72". Length 26 ft. 60%.

Lumber 1,965 ft. . .	@	$25.00	per	M	$49.10
Carpenter Work. . . .	@	7.00	"	"	14.00
Hauling	@	3.00	"	"	6.00
Iron	@	2.00	"	"	4.00
Nails	@	.30	"	"	.60
Earth Work.					25.00
					$98.70 $59.20

Sidegate.

Sta. 2128–87. Width 50". Depth 44". Length 28 ft. 50%.

Lumber 1,234 ft. . .	@	$25.00	per	M	$30.80
Carpenter Work. . . .	@	7.00	"	"	8.40
Hauling	@	3.00	"	"	3.60
Iron	@	2.00	"	"	2.40
Nails	@	.30	"	"	.50
Earth Work.					25.00
					$70.70 $35.40

2029 **Sidegate.**

Sta. 2143–97. Width 6 ft. Depth 68". Length 36 ft. 80%.

Lumber 2,288 ft. . . .	@	$25.00	per	M	$57.20
Carpenter Work. . . .	@	7.00	"	"	16.10
Hauling	@	3.00	"	"	6.90
Iron	@	2.00	"	"	4.60
Nails	@	.30	"	"	.70
Earth Work.					25.00
					$110.50 $88.40

Weir.

Sta. 2145–91. Width 24 ft. Depth 9 ft. Length 42 ft. 70%.

Lumber 13,807 ft.	@	$25.00	per M	$345.20
Carpenter Work	@	7.00	" "	96.60
Hauling	@	3.00	" "	41.40
Iron	@	2.00	" "	27.60
Nails	@	.30	" "	4.10
Earth Work				120.00
				$634.90

$444.40

Sidegate.

Sta. 2146–42. Width 2 ft. Depth 3 ft. Length 60 ft. 50%.

Lumber 1,582 ft.	@	$25.00	per M	$39.50
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$84.20

$42.10

2030

Drain.

Sta. 2180–19. Wings 10–10. Dia. Pipe 2 ft. Length 100 ft. 100%

Lumber 526 ft.	@	$25.00	per M	$13.20
Carpenter —	@	7.00	" "	3.50
Hauling	@	3.00	" "	1.50
Iron	@	2.00	" "	1.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$44.70

(Valuation of Pipe $250)

$44.70

Sidegate.

Sta. 2180–78. Width 32". Depth 32". Length 20 ft. 40%

Lumber 651 ft.	@	$25.00	per M	$16.30
Carpenter Work	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$50.20

$20.10

Bridge.

Sta. 2184–50. Width 16 ft. Length 70 ft. 80%

Lumber 6,398 ft.	@	$25.00	per M	$159.90
Carpenter Work	@	7.00	" "	44.80
Hauling	@	3.00	" "	19.20
Iron	@	2.00	" "	12.80
Nails	@	.30	" "	1.90
Earth Work				25.00
				$263.60

$210.90

2031 Sidegate.

Sta. 2184–91. Width 3 ft. Depth 56". Length 22 ft. 20%

Lumber 1,209 ft.	@	$25.00	per M	$30.20
Carpenter Work	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$70.10

$14.00

Sidegate.

Sta. 2252–08. Width 6 ft. Depth 5½ ft. Length 32 ft. 80%

Lumber 1,815 ft.	@	$25.00	per M	$45.40
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$92.50

$74.00

Sidegate.

Sta. 2257–33. Width 20 ft. Depth 8 ft. Length 18 ft. 30%

Lumber 3,287 ft.	@	$25.00	per M	$82.20
Carpenter Work	@	7.00	" "	23.10
Hauling	@	3.00	" "	9.90
Iron	@	2.00	" "	6.60
Nails	@	.30	" "	1.00
Earth Work				25.00
				$147.80

$44.30

2032 Sidegate.

Sta. 2281–22. Width 16 ft. Depth 76". Length 24 ft. 50%

Lumber 3,680 ft. . .	@	$25.00	per M	$92.00
Carpenter Work . . .	@	7.00	" "	25.90
Hauling	@	3.00	" "	11.10
Iron	@	2.00	" "	7.40
Nails	@	.30	" "	1.10
Earth Work				25.00
				$162.50

$81.20

Bridge.

Sta. 2281–67 Newly Constructed Bridge.

Bridge.

Sta. 2283–52. Width 12 ft. Length 70 ft. 26%

Lumber 6,556 ft. . .	@	$25.00	per M	$163.90
Carpenter Work . . .	@	7.00	" "	46.20
Hauling	@	3.00	" "	19.80
Iron	@	2.00	" "	13.20
Nails	@	.30	" "	2.00
Earth Work				25.00
				$270.10

$51.00

Sidegate.

Sta. 2286–56. Width 32". Depth 80". Length 20 ft. 20%

Lumber 1,298 Ft. . .	@	$25.00	per M	$32.40
Carpenter Work . . .	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$73.50

$14.70

2033 Sidegate.

Sta. 2303–56. Width 3 ft. Depth 49". Length 22 ft. 30%

Lumber 1,013 ft. . .	@	$25.00	per M	$25.30
Carpenter Work . . .	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$62.80

$18.90

Sidegate.

Sta. 2315–81. Width 4 ft. Depth 5 ft. Length 34 ft. 90%

Lumber 1,440 ft.	@	$25.00	per M	$36.00
Carpenter Work	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$79.50

$69.70

Sidegate.

Sta. 2316–19. Width 44". Depth 37". Length 28 ft. 30%

Lumber 973 ft.	@	$25.00	per M	$24.30
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.35	" "	.50
Earth Work				25.00
				$61.80

$18.50

2034 Bridge.

Sta. 2333–35. Width 16 ft. Length 68 ft. 90%

Lumber 7,231 ft.	@	$25.00	per M	$180.80
Carpenter Work	@	7.00	" "	50.40
Hauling	@	3.00	" "	21.60
Iron	@	2.00	" "	14.40
Nails	@	.30	" "	2.20
Earth Work				25.00
				$294.40

$265.00

Sidegate.

Sta. 2361–87. Width 46". Depth 64". Length 24 ft. 30%

Lumber 1,387 ft.	@	$25.00	per M	$34.70
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$77.00

$23.10

Drain.

Sta. 3,362#25. Width 72". Depth 30". Length 140 ft. 10%

Lumber 7,330 ft.	@	$25.00	per M	$184.50
Carpenter Work	@	7.00	" "	51.80
Hauling	@	3.00	" "	22.20
Iron	@	2.00	" "	14.80
Nails	@	.30	" "	2.20
Earth Work				25.00
				$300.50

$30.00

2035

Bridge.

Sta. 2368–44. Width 24 ft. Length 60 ft. 80%

Lumber 9,357 ft.	@	$25.00	per M	$234.40
Carpenter Work	@	7.00	" "	65.80
Hauling	@	3.00	" "	28.20
Iron	@	2.00	" "	18.80
Nails	@	.30	" "	2.80
Earth Work				25.00
				$375.00

$300.00

Sidegate.

Sta. 2374–66. Width 4 ft. Depth 68". Length 20 ft. 30%

Lumber 1,592 ft.	@	$25.00	per M	$39.80
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$84.50

$25.40

Sidegate.

Sta. 2390–56. Width 4 ft. Depth 79". Length 22 ft. 30%

Lumber 1,444 ft.	@	$25.00	per M	$43.60
Carpenter Work	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$89.50

$26.80

2036 **Bridge.**

Sta. 2396–75. Width 16 ft. Length 74 ft. 80%.

Lumber 7,733 ft. . .	@	$25.00 per M	$193.30
Carpenter Work. . . .	@	7.00 " "	53.90
Hauling	@	3.00 " "	23.10
Iron	@	2.00 " "	15.40
Nails	@	.30 " "	2.30
Earth Work.			25.00
			$313.00

$250.00

Sidegate.

Sta. 2397–59. Width 58". Depth 72". Length 20 ft. 30%.

Lumber 1,578 ft. . . .	@	$25.00 per M	$39.40
Carpenter Work. . . .	@	7.00 " "	11.20
Hauling	@	3.00 " "	4.80
Iron	@	2.00 " "	3.20
Nails	@	.30 " "	.50
Earth Work.			25.00
			$84.10

$25.20

Sidegate.

Sta. 2423–41. Width 60". Depth 84". Length 20 ft. 30%.

Lumber 1,685 ft. . .	@	$25.00 per M	$42.10
Carpenter Work. . . .	@	7.00 " "	11.90
Hauling	@	3.00 " "	5.10
Iron	@	2.00 " "	3.40
Nails	@	.30 " "	.50
Earth Work.			25.00
			$88.00

$26.40

2037 **Drain.**

Sta. 2423–41. Width 7 ft. Depth 3 ft. Length 140 ft. 30%.

Lumber 8,946 ft. . . .	@	$25.00 per M	$223.70
Carpenter Work. . . .	@	7.00 " "	62.30
Hauling	@	3.00 " "	26.70
Iron	@	2.00 " "	17.80
Nails	@	.30 " "	2.70
Earth Work.			25.00
			$358.10

$170.40

Sidegate.

Sta. 2445–11. Width 60″. Depth 54″. Length 26 ft. 50%.

Lumber 2,138 ft. . .	@	$25.00	per M	$53.40
Carpenter Work. . . .	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.60
Earth Work.				25.00
				$104.20

$52.10

Sidegate.

Sta. 2450–95. Width 68″. Depth 68″. Length 26 ft. 40%.

Lumber 1,688 ft. . .	@	$25.00	per M	$42.20
Carpenter Work. . . .	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work.				25.00
				$88.10

$35.20

2038

Weir.

Sta. 2451–47. Width 2 ft. Depth 84″. Length 44 ft. 40%.

Lumber 14,000 ft. .	@	$25.00	per M	$350.00
Carpenter Work. . . .	@	7.00	" "	98.00
Hauling	@	3.00	" "	42.00
Iron	@	2.00	" "	28.00
Nails	@	.30	" "	4.20
Earth Work.				120.00
				$642.20

$256.90

Sidegate.

Sta. 2451–47. Width 36″. Depth 50″. Length 20 ft. 10%.

Lumber 1,052 — . .	@	$25.00	per M	$26.30
Carpenter Work. . . .	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work.				25.00
				$65.00

$6.50

Weir.

Sta. 2453–00. Width 20 ft. Depth 8½ ft. Length 40 ft. 40%.

Lumber 13,807 ft.	@	$25.00	per M	$345.20
Carpenter Work	@	7.00	" "	76.60
Hauling	@	3.00	" "	41.40
Iron	@	2.00	" "	27.60
Nails	@	.30	" "	4.10
Earth Work				25.00
				$614.90

$246.00

2039

Sidegate.

Sta. 2498–02. Width 34". Depth 32". Length 30 ft. 40%.

Lumber 802 ft.	@	$25.00	per M	$20.00
Carpenter Work	@	7.00	" "	5.60
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.10

$22.00

Sidegate.

Sta. 2569–39. Width 30". Depth 70". Length 24 ft. 30%.

Lumber 1,436 ft.	@	$25.00	per M	$35.90
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$78.20

$23.20

Sidegate.

Sta. 2588–15. Width 66". Depth 70". Length 20 ft. 30%.

Lumber 1,804 ft.	@	$25.00	per M	$45.10
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$92.20

$27.60

2040 **Sidegate.**

Sta. 2598–94. Width 34″. Depth 62″. Length 34 ft. 40%.

Lumber 1,659 ft. . . .	@	$25.00	per M	$41.50
Carpenter Work. . . .	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work.				25.00
				$86.20 $34.50

Sidegate.

Sta. 2599–61. Width 92″. Depth 60″. Length 26 ft. 40%.

Lumber 2,369 ft. . .	@	$25.00	per M	$59.20
Carpenter Work. . . .	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.70
Earth Work.				25.00
				$113.70 $45.50

Sidegate.

Sta. 2600–86. Width 32″. Depth 62″. Length 27 ft. 30%.

Lumber 1,333 ft. . . .	@	$25.00	per M	$33.30
Carpenter Work. . . .	@	7.00	" "	9.30
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work.				25.00
				$74.60 $22.40

2041 **Weir.**

Sta. 2601–23. Width 20″. Depth 9 ft. Length 40 ft. 80%.
Lumber 13,807. Same as Station 2847–69.

$634.90 $507.90

Bridge.

Sta. 2617–22. Width 16 ft. Length 67 ft. 60%.

Lumber 7,147 ft. . .	@	$25.00	per M	$178.70
Carpenter Work. . . .	@	7.00	" "	49.70
Hauling	@	3.00	" "	21.30
Iron	@	2.00	" "	14.20
Nails	@	.30	" "	2.10
Earth Work.				25.00
				$291.00 $174.60

Sidegate.

Sta. 2630–89. Width 48". Depth 60". Length 26 ft. 30%.

Lumber 1,660 ft.	@	$25.00	per	M	$41.50
Carpenter Work	@	7.00	"	"	11.90
Hauling	@	3.00	"	"	5.10
Iron	@	2.00	"	"	3.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$87.40

$26.20

2042

Sidegate.

Sta. 2644–34. Width 12 ft. Depth 84". Length 36 ft. 30%.

Lumber 3,932 ft.	@	$25.00	per	M	$98.80
Carpenter Work	@	7.00	"	"	27.30
Hauling	@	3.00	"	"	11.70
Iron	@	2.00	"	"	7.80
Nails	@	.30	"	"	1.20
Earth Work					25.00
					$171.80

$52.50

Drain.

Sta. 2645–1. Wing *Wil* 4–7 Dia. of Pipe 2 ft.

Lumber 476 ft.	@	$25.00	per	M	$11.90
Carpenter Work	@	7.00	"	"	3.50
Hauling	@	3.00	"	"	1.50
Iron	@	2.00	"	"	1.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$42.90

Valuation of Pipe $220.00

Sidegate.

Sta. 2656–56. Width 3 ft. Depth 60". Length 24 ft. 30%

Lumber 1,419 ft.	@	$25.00	per	M	$35.50
Carpenter Work	@	7.00	"	"	9.80
Hauling	@	3.00	"	"	4.20
Iron	@	2.00	"	"	2.80
Nails	@	.30	"	"	.50
Earth Work					25.00
					$77.80

$23.3

2043 **Sidegate.**

Sta. 2660–45. Width 46″. Depth 54″. Length 26 ft. 40%

Lumber 1,289 ft.	@	$25.00	per	M	$32.20	
Carpenter Work	@	7.00	"	"	9.10	
Hauling	@	3.00	"	"	3.90	
Iron	@	2.00	"	"	2.60	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$74.30	$29.70

Bridge.

Sta. 2671–05. Width 24 ft. Length 72 ft. 40%

Lumber 11,544 ft.	@	$25.00	per	M	$288.60	
Carpenter Work	@	7.00	"	"	80.50	
Hauling	@	3.00	"	"	34.50	
Iron	@	2.00	"	"	23.00	
Nails	@	.30	"	"	3.50	
Earth Work					25.00	
					$455.10	$182.00

Spillway.

Sta. 2671–45. Width 20 ft. Depth 7 ft. Length 16 ft. 30%

Lumber 6,324 ft.	@	$25.00	per	M	$158.10	
Carpenter Work	@	7.00	"	"	44.10	
Hauling	@	3.00	"	"	18.90	
Iron	@	2.00	"	"	12.60	
Nails	@	.30	"	"	1.90	
Earth Work					25.00	
					$260.60	$78.20

2044 **Sidegate.**

Sta. 2675–63. Width 2 ft. Depth 42″. Length 26 ft. 30%.

Lumber 957 ft.	@	$25.00	per	M	$23.90	
Carpenter Work	@	7.00	"	"	7.00	
Hauling	@	3.00	"	"	3.00	
Iron	@	2.00	"	"	2.00	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$61.40	$18.40

Sidegate.

Sta. 2678–14. Width 68″. Depth 76″. Length 24 ft. 30%

Lumber 1,998 ft.	@	$25.00	per M	$50.00
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				25.00
				$99.60

$29.90

Sidegate.

Sta. 2680–71. Width 32″. Depth 44″. Length 24 ft. 30%.

Lumber 971 ft.	@	$25.00	per M	$24.30
Carpenter Work	@	7.00	" "	6.80
Hauling	@	3.00	" "	2.90
Iron	@	2.00	" "	1.90
Nails	@	.30	" "	.50
Earth Work				25.00
				$61.40

$18.40

2045 **Sidegate.**

Sta. 2693–87. Width 3 ft. Depth 56″. Length 24 ft. 30%.

Lumber 1,031 ft.	@	$25.00	per M	28.30
Carpenter Work	@	7.00	" "	7.90
Hauling	@	3.00	" "	3.40
Iron	@	2.00	" "	2.30
Nails	@	.30	" "	.50
Earth Work				25.00
				$67.40

$20.20

Sidegate.

Sta. 2696–10. Width 66″. Depth 74″. Length 28 ft. 30%.

Lumber 2,276 ft.	@	$25.00	per M	$56.90
Carpenter Work	@	7.00	" "	15.90
Hauling	@	3.00	" "	6.80
Iron	@	2.00	" "	4.50
Nails	@	.30	" "	.70
Earth Work				25.00
				$108.80

$32.90

Sidegate.

Sta. 2713–32. Width 34″. Depth 38″. Length 26 ft. 60%.

Lumber 831 ft.	@	$25.00	per M	$20.80
Carpenter Work	@	7.00	" "	5.60
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.90

$33.50

2046

Sidegate.

Sta. 2729–74. Width 66″. Depth 78″. Length 26 ft. 30%

Lumber 2,446 ft.	@	$25.00	per M	$61.20
Carpenter Work	@	7.00	" "	17.10
Hauling	@	3.00	" "	7.30
Iron	@	2.00	" "	4.90
Nails	@	.30	" "	.70
Earth Work				25.00
				$116.20

$34.90

Sidegate.

Sta. 2730–49. Width 62″. Depth 42″. Length 24 ft. 30%.

Lumber 1,225 ft.	@	$25.00	per M	$30.60
Carpenter Work	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$70.50

$21.10

Weir.

Sta. 2730–91. Width 25 ft. Depth 104″. Length 40 ft. 70%.

Same as Station 2847–69. ..... $634.90 $440.40

Bridge.

Sta. 2731–84. Width 24 ft. Length 68 ft. 50%

Lumber 10,335 ft.	@	$25.00	per M	$258.40
Carpenter Work	@	7.00	" "	72.30
Hauling	@	3.00	" "	30.90
Iron	@	2.00	" "	3.10
Earth Work				25.00
				$410.30

$205.10

2047 **Sidegate.**

Sta. 2745–87. Width 42″. Depth 62″. Length 24 ft. 40%.

Lumber 1,280 ft.	@	$25.00	per M	$32.00
Carpenter Work	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.70
Nails	@	.30	" "	.50
Earth Work				25.00
				$73.10

$29.20

Sidegate.

Sta. 2754–00. Width 38″. Depth 42″. Length 20 ft. 30%.

Lumber 887 ft.	@	$25.00	per M	$22.20
Carpenter Work	@	7.00	" "	6.30
Hauling	@	3.00	" "	2.70
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$58.50

$17.50

Sidegate.

Sta. 2758–64. Width 4 ft. Depth 3 ft. Length 20 ft. 30%.

Lumber 885 ft.	@	$25.00	per M	$22.10
Carpenter Work	@	7.00	" "	6.20
Hauling	@	3.00	" "	2.60
Iron	@	2.00	" "	1.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$58.20

$17.50

2048 **Sidegate.**

Sta. 2759–30. Width 66″. Depth 70″. Length 28 ft. 30%

Lumber 2,213 ft.	@	$25.00	per M	$57.80
Carpenter Work	@	7.00	" "	15.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$110.10

$33.00

Sidegate.

Sta. 2774–48. Width 4 ft. Depth 5 ft. Length 20 ft. 30%.

Lumber 1,368 ft.	@	$25.00	per	M	$34.20	
Carpenter Work	@	7.00	"	"	9.80	
Hauling	@	3.00	"	"	4.20	
Iron	@	2.00	"	"	2.80	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$76.50	$22.90

Aidegate.

Sta. 2775–84. Width 40 in. Depth 42". Length 26 ft. 50%.

Lumber 1,011 ft.	@	$25.00	per	M	$25.30	
Carpenter Work	@	7.00	"	"	7.00	
Hauling	@	3.00	"	"	3.00	
Iron	@	2.00	"	"	2.00	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$62.80	$31.40

2049 Sidegate.

Sta. 2783–52. Width 66". Depth 76". Length 28 ft. 30%

Lumber 2,183 ft.	@	$25.00	per	M	$54.80	
Carpenter Work	@	7.00	"	"	15.40	
Hauling	@	3.00	"	"	6.60	
Iron	@	2.00	"	"	4.60	
Nails	@	.30	"	"	.70	
Earth Work					25.00	
					$107.10	$32.10

Sidegate.

Sta. 2783–00. Width 3 ft. Depth 4 ft. Length 20 ft. 30%.

Lumber 921 ft.	@	$25.00	per	M	$23.00	
Carpenter Work	@	7.00	"	"	6.40	
Hauling	@	3.00	"	"	2.80	
Iron	@	2.00	"	"	1.80	
Nails	@	.30	"	"	.50	
Earth Work					25.00	
					$59.50	$17.80

Sidegate.

Sta. 2793–92. Width 66". Depth 70". Length 26 ft. 40%.

Lumber 3,285 ft.	@	$25.00	per	M	$57.10
Carpenter Work	@	7.00	"	"	16.10
Hauling	@	3.00	"	"	6.90
Iron	@	2.00	"	"	4.60
Nails	@	.30	"	"	.70
Earth Work					25.00
					$110.40

$24.20

2050 **Sidegate.**

Sta. 2795–08. Width 3 ft. Depth 5 ft. Length 20 ft. 40%.

Lumber 1,204 ft.	@	$25.00	per	M	$30.10
Carpenter Work	@	7.00	"	"	8.40
Hauling	@	3.00	"	"	3.60
Iron	@	2.00	"	"	2.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$70.00

$28.00

Sidegate.

Sta. 2807–05. Width 66". Depth 74". Length 28 ft. 30%.

Lumber 2,159 ft.	@	$25.00	per	M	$54.00
Carpenter Work	@	7.00	"	"	14.70
Hauling	@	3.00	"	"	6.60
Iron	@	2.00	"	"	4.20
Nails	@	.30	"	"	.70
Earth Work					25.00
					$105.20

$31.60

Sidegate.

Sta. 2807–05. Width 5 ft. Depth 6 ft. Length 20 ft. 30%.

Lumber 1,728 ft.	@	$25.00	per	M	$43.20
Carpenter Work	@	7.00	"	"	11.90
Hauling	@	3.00	"	"	5.10
Iron	@	2.00	"	"	3.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$89.10

$26.70

2051 **Bridge.**

Sta. 2816–66. Width 28 ft. Length 64 ft. 60%

Lumber 9,856 ft.	@	$25.00	per	M	$246.60
Carpenter Work	@	7.00	"	"	68.60
Hauling	@	3.00	"	"	29.40
Iron	@	2.00	"	"	19.60
Nails	@	.30	"	"	3.00
Earth Work					25.00
					$392.20
					$196.10

Sidegate.

Sta. 2818–06. Width 66". Depth 76". Length 30 ft. 30%.

Lumber 2,695 ft.	@	$25.00	per	M	$67.40
Carpenter Work	@	7.00	"	"	18.90
Hauling	@	3.00	"	"	8.10
Iron	@	2.00	"	"	5.40
Nails	@	.30	"	"	.80
Earth Work					25.00
					$125.60
					$37.70

Sidegate.

Sta. 2826–60. Width 66". Depth 88". Length 28 ft. 40%

Lumber 3,625 ft.	@	$25.00	per	M	$66.60
Carpenter Work	@	7.00	"	"	18.20
Hauling	@	3.00	"	"	7.90
Iron	@	2.00	"	"	5.20
Nails	@	.30	"	"	.80
Earth Work					25.00
					$122.70
					$49.10

2052 **Sidegate.**

Sta. 2837–37. Width 38". Depth 56". Length 27 ft. 40%

Lumber 1,050 ft.	@	$25.00	per	M	$26.20
Carpenter Work	@	7.00	"	"	7.00
Hauling	@	3.00	"	"	3.00
Iron	@	2.00	"	"	2.00
Nails	@	.30	"	"	.50
Earth Work					25.00
					$63.70
					$25.50

Sidegate.

Sta. 2843–21. Width 4 ft. Depth 66″. Length 26 ft. 40%

Lumber 1,529 ft.	@	$25.00	per M	$38.20
Carpenter Work	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$81.70

$32.70

Weir.

Sta. 2847–08. Width 21 ft. Depth 9 ft. Length 40 ft. 80%

Same as Station 2847–69 ..... $634.90 $507.90

Weir.

Sta. 2847–30. Width 20″. Depth 9 ft. Length 34 ft. 70%

Lumber 12,500 ft.	@	$25.00	per M	$312.50
Carpenter Work	@	7.00	" "	87.50
Hauling	@	3.00	" "	37.50
Iron	@	2.00	" "	25.00
Nails	@	.30	" "	3.70
Earth Work				120.00
				$586.20

$410.30

2053

Weir.

Sta. 2847–69. Width 20 ft. Depth 108″. Length 40 ft. 60%

Lumber 13,807 ft.	@	$25.00	per M	$345.20
Carpenter Work	@	7.00	" "	96.60
Hauling	@	3.00	" "	41.40
Iron	@	2.00	" "	27.60
Nails	@	.30	" "	4.10
Earth Work				120.00
				$634.90

$380.90

Sidegate.

Sta. 2857–67. Width 60″. Depth 64″. Length 25 ft. 10%

Lumber 1,743 ft.	@	$25.00	per M	$43.60
Carpenter Work	@	7.00	" "	11.90
Hauling	@	3.00	" "	4.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$88.50

$8.90

Sidegate.

Sta. 2867–77. Width 56″. Depth 80″. Length 28 ft. 30%

Lumber 2,327 ft.	@	$25.00	per M	$58.20
Carpenter Work	@	7.00	" "	16.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$111.50

$33.50

2054

Bridge.

Sta. 2872–83. Width 16 ft. Length 60 ft. 70%

Lumber 6,561 ft.	@	$25.00	per M	$164.00
Carpenter Work	@	7.00	" "	46.20
Hauling	@	3.00	" "	19.30
Iron	@	2.00	" "	13.20
Nails	@	.30	" "	2.00
Earth Work				25.00
				$270.20

$189.00

Sidegate.

Sta. 2877–92. Width 66″. Depth 56″. Length 28 ft. 30%

Lumber 1,784 ft.	@	$25.00	per M	$44.60
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$91.70

$27.50

Sidegate.

Sta. 2884–73. Width 66″. Depth 80″. Length 27 ft. 30%

Lumber 2,320 ft.	@	$25.00	per M	$58.00
Carpenter Work	@	7.00	" "	16.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$111.30

$33.40

2055 Sidegate.

Sta. 2888–57. Width 8 ft. Depth 5 ft. Length 24 ft. 40%

Lumber 2,076 ft.	@	$25.00	per M	$51.90
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.60
Earth Work				25.00
				$102.70 $41.10

Sidegate.

Sta. 2895–71. Width 74". Depth 62". Length 26 ft. 40%

Lumber 1,812 ft.	@	$25.00	per M	$45.30
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$92.40 $37.00

Sidegate.

Sta. 2898–68. Width 8 ft. Depth 6 ft. Length 28 ft. 30%

Lumber 2,723 ft.	@	$25.00	per M	$68.10
Carpenter Work	@	7.00	" "	19.00
Hauling	@	3.00	" "	8.10
Iron	@	2.00	" "	5.40
Nails	@	.30	" "	.80
Earth Work				25.00
				$126.40 $37.90

2056 Weir.

Sta. 2898–87. Width 6 ft. Depth 68". Length 26 ft. 30%

Lumber 1,970 ft.	@	$25.00	per M	$49.20
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				120.00
				$193.80 $58.10

Weir.

Sta. 2899–41. Width 20 ft. Depth 98″. Length 40 ft. 20%

Lumber 12,914 ft. . . @	$25.00 per M	$322.80	
Carpenter Work . . . @	7.00 " "	90.00	
Hauling . . . . . @	3.00 " "	38.70	
Iron . . . . . @	2.00 " "	25.80	
Nails . . . . . @	.30 " "	3.90	
Earth Work		120.00	
		$601.20	$120.20

Bridge.

Sta. 2901–75 Width 24 ft. Length 62 ft. 30%

Lumber 10,346 ft. . @	$25.00 per M	$258.60	
Carpenter Work . . @	7.00 " "	72.10	
Hauling . . . . . @	3.00 " "	30.90	
Iron . . . . . @	2.00 " "	20.60	
Nails . . . . . @	.30 " "	3.10	
Earth Work		25.00	
		$410.30	$123.10

2057

Sidegate.

Sta. 2902–40. Width 66″. Depth 62″. Length 24 ft. 40%

Lumber 1,798 ft. . . . @	$25.00 per M	$44.90	
Carpenter Work . . . @	7.00 " "	12.60	
Hauling . . . . . @	3.00 " "	5.40	
Iron . . . . . @	2.00 " "	3.60	
Nails . . . . . @	.30 " "	.50	
Earth Work		25.00	
		$92.00	$36.80

Sidegate.

Sta. 2919–10. Width 46″. Depth 58″. Length 27 ft. 30%

Lumber 1,457 ft. . . @	$25.00 per M	$36.40	
Carpenter Work . . . @	7.00 " "	10.10	
Hauling . . . . . @	3.00 " "	4.50	
Iron . . . . . @	2.00 " "	2.90	
Nails . . . . . @	.30 " "	.50	
Earth Work		25.00	
		$79.40	$23.80

Sidegate.

Sta. 2972–22. Width 4 ft. Depth 5 ft. Length 28 ft.

Lumber 1,543 ft.	@	$25.00	per M	$38.60
Carpenter Work	@	7.00	" "	10.80
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$82.40

2058 Bridge.

Sta. 2927–78. Width 16 ft. Length 65 ft.

Lumber 7,358 ft.	@	$25.00	per M	$183.90
Carpenter Work	@	7.00	" "	51.80
Hauling	@	3.00	" "	22.20
Iron	@	2.00	" "	14.80
Nails	@	.30	" "	2.20
Earth Work				25.00
				$299.90

Sidegate.

Sta. 2928–65. Width 66″. Depth 88″. Length 27 ft.

Lumber 2,633 ft.	@	$25.00	per M	$65.80
Carpenter Work	@	7.00	" "	18.20
Hauling	@	3.00	" "	7.80
Iron	@	2.00	" "	5.20
Nails	@	.30	" "	.80
Earth Work				25.00
				$122.80

Sidegate.

Sta. 2929–18. Width 6 ft. Depth 56″. Length 10 ft.

Lumber 699 ft.	@	$25.00	per M	$17.50
Carpenter Work	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$51.40

2059 Sidegate.

Sta. 2929–89. Width 26″. Depth 56″. Length 27 ft. 30%.

Lumber 1,481 ft. . .	@	$25.00	per M	$37.10
Carpenter Work. . . .	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work.				25.00
				$80.60

$24.20

Sidegate.

Sta. 2933–08. Width 6 ft. Depth 4 ft. Length 23 ft. 30%.

Lumber 1,489 ft. . .	@	$25.00	per M	$37.20
Carpenter Work. . . .	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work.				25.00
				$80.70

$24.20

Sidegate.

Sta. 2938–37. Width 4 ft. Depth 56″. Length 20 ft. 30%.

Lumber 1,186 ft. . . .	@	$25.00	per M	$29.60
Carpenter Work. . . .	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.33	" "	.50
Earth Work.				25.00
				$69.50

$20.90

2060 Sidegate.

Sta. 2939–91. Width 44″. Depth 58″. Length 27 ft. 40%.

Lumber 1,457 ft. . . .	@	$25.00	per M	$36.40
Carpenter Work. . .	@	7.00	" "	10.10
Hauling	@	3.00	" "	4.40
Iron	@	2.00	" "	2.90
Nails	@	.30	" "	.50
Earth Work				25.00
				$79.30

$31.70

Sidegate.

Sta. 2958–61. Width 120″. Depth 5 ft. Length 24 ft. 100%

Lumber 2,567 ft. . .	@	$25.00	per M	$64.20
Carpenter Work. . . .	@	7.00	" "	18.20
Hauling	@	3.00	" "	7.80
Iron	@	2.00	" "	5.20
Nails	@	.30	" "	.80
Earth Work.				25.00
				$121.20

$121.00

Sidegate.

Sta. 2958–61. Width 66″. Depth 88″. Length 27 ft. 30%

Lumber 2,419 ft. . .	@	$25.00	per M	$60.10
Carpenter Work. . . .	@	7.00	" "	16.90
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.70
Earth Work.				25.00
				$114.70

$34.40

2061 Weir.

Sta. 2958–87. Width 28″. Depth 108″. Length 40 ft. 80%

Lumber 14,500 ft. .	@	$25.00	per M	$362.50
Carpenter Work. . . .	@	7.00	" "	101.50
Hauling	@	3.00	" "	43.50
Iron	@	2.00	" "	29.00
Nails	@	.30	" "	4.30
Earth Work.				120.00
				$660.80

$528.60

Sidegate.

Sta. 2963–36. Width 44″. Depth 56″. Length 17 ft. 20%

Lumber 823 ft.	@	$25.00	per M	$20.60
Carpenter Work. . . .	@	7.00	" "	5.70
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work.				25.00
				$55.80

$11.20

Sidegate.

Sta. 2972–86. Width 46". Depth 4 ft. Length 26 ft. 40%.

Lumber 1,309 ft...@	$25.00 per M	$32.70	
Carpenter Work....@	7.00 " "	9.10	
Hauling .....@	3.00 " "	3.90	
Iron .....@	2.00 " "	2.60	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$73.80	$29.50

2062 **Sidegate.**

Sta. 2982–34. Width 44". Depth 50". Length 26 ft. 30%.

Lumber 1,589 ft...@	$25.00 per M	$39.70	
Carpenter Work....@	7.00 " "	11.20	
Hauling .....@	3.00 " "	4.80	
Iron .....@	2.00 " "	3.20	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$84.40	$25.30

Sidegate.

Sta. 2986–23. Width 4 ft. Depth 4 ft. Length 24 ft. 40%.

Lumber 1,147 ft....@	$25.00 per M	$28.70	
Carpenter Work....@	7.00 " "	7.70	
Hauling .....@	3.00 " "	3.30	
Iron .....@	2.00 " "	2.20	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$67.40	$27.00

Sidegate.

Sta. 2994–50. Width 66". Depth 6 ft. Length 24 ft. 30%.

Lumber 1,933 ft....@	$25.00 per M	$48.30	
Carpenter Work....@	7.00 " "	13.30	
Hauling .....@	3.00 " "	5.70	
Iron .....@	2.00 " "	3.80	
Nails .....@	.30 " "	.60	
Earth Work.....		25.00	
		$96.70	$29.00

2063 **Sidegate.**

Sta. 2998–62. Width 74″. Depth 80″. Length 26 ft. 10%.

Lumber 2,380 ft...	@	$25.00	per M	$59.50
Carpenter Work...	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.70
Earth Work.....				25.00
				$104.00

$10.40

Sidegate.

Sta. 3011–11. Width 60″. Depth 60″. Length 20 ft. 100%.

Lumber 1,711 ft...	@	$25.00	per M	$42.80
Carpenter Work...	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work.....				25.00
				$88.70

$88.70

Bridge.

Sta. 3018–92. Width 24 ft. Length 75 ft. 20%.

Lumber 11,902 ft..	@	$25.00	per M	$297.50
Carpenter Work...	@	7.00	" "	83.30
Hauling	@	3.00	" "	35.70
Iron	@	2.00	" "	23.80
Nails	@	.30	" "	3.60
Earth Work.....				25.00
				$468.90

$93.80

2064 **Sidegate.**

Sta. 3019–72. Width 66″. Depth 70″. Length 28 ft. 70%.

Lumber 2,248 ft...	@	$25.00	per M	$56.20
Carpenter Work...	@	7.00	" "	15.40
Hauling	@	3.00	" "	6.60
Iron	@	2.00	" "	4.40
Nails	@	.30	" "	.70
Earth Work.....				25.00
				$108.30

$75.80

Sidegate.

Sta. 3039–94. Width 4 ft. Depth 42″. Length 26 ft. 40%.

Lumber 1,071 ft.	@	$25.00	per M	$26.80
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.50

$26.20

Sidegate.

Sta. 3047–24. Width 74″. Depth 5 ft. Length 24 ft. 20%.

Lumber 1,853 ft.	@	$25.00	per M	$46.30
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$93.40

$18.80

2065

Sidegate.

Sta. 3054–79. Width 3 ft. Depth 5 ft. Length 24 ft. 60%

Lumber 1,271 ft.	@	$25.00	per M	$31.80
Carpenter Work	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$72.90

$42.70

Sidegate.

Sta. 3059–76. Width 54″. Depth 52″. Length 26 ft. 60%

Lumber 1,430 ft.	@	$25.00	per M	$35.70
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$78.00

$46.80

Weir.

Sta. 3061–13. Width 18 ft. Depth 40 ft. Length 40 ft. 80%

Same as Station 2847–69.....		$634.90	$507.90

Bridge.

Sta. 3069–41. Width 18 ft. Length 66 ft. 70%

Lumber 7,971 ft...	@ $25.00 per M	$199.30	
Carpenter Work ..	@ 7.00 " "	56.00	
Hauling	@ 3.00 " "	24.00	
Iron	@ 2.00 " "	16.00	
Nails	@ .30 " "	2.40	
Earth Work		25.00	
		$322.70	$258.90

2066

Measuring Gate.

Sta. 3070–44. Width 12 ft. 8". Depth 5 ft. Length 8 ft. 20%

Lumber 1,637 ft...	@ $25.00 per M	$40.90	
Carpenter Work ..	@ 7.00 " "	11.20	
Hauling	@ 3.00 " "	4.80	
Iron	@ 2.00 " "	3.20	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$85.60	$17.10

Sidegate.

Sta. 3070–44. Width 6 ft. Depth 66". Length 27 ft. 30%

Lumber 2,376 ft...	@ $25.00 per M	$59.40	
Carpenter Work ..	@ 7.00 " "	16.80	
Hauling	@ 3.00 " "	7.70	
Iron	@ 2.00 " "	4.80	
Nails	@ .30 " "	.70	
Earth Work		25.00	
		$113.90	$34.20

Sidegate.

Sta. 3077–77. Width 64". Depth 5 ft. Length 24 ft. 40%

Lumber 1,765 ft...	@ $25.00 per M	$44.10	
Carpenter Work ..	@ 7.00 " "	12.60	
Hauling	@ 3.00 " "	5.40	
Iron	@ 2.00 " "	3.60	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$91.20	$36.50

2067 **Sidegate.**

Sta. 3084–58. Width 68″. Depth 82″. Length 25 ft. 40%

Lumber 2,304 ft.	@	$25.00	per M	$57.60
Carpenter Work	@	7.00	" "	16.10
Hauling	@	3.00	" "	6.90
Iron	@	2.00	" "	4.60
Nails	@	.30	" "	.70
Earth Work				25.00
				$110.90

$44.40

Sidegate.

Sta. 3096–83. Width 42″. Depth 5 ft. Length 23 ft. 30%

Lumber 1,345 ft.	@	$25.00	per M	$35.60
Carpenter Work	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$74.70

$22.40

Sidegate.

Sta. 3098–61. Width 44″. Depth 50″. Length 26 ft. 50%

Lumber 1,292 ft.	@	$25.00	per M	$32.30
Carpenter Work	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$73.40

$36.70

2068 **Sidegate.**

Sta. 3110–32. Width 44″. Depth 5 ft. Length 26 ft. 40%

Lumber 1,591 ft.	@	$25.00	per M	$39.80
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$84.50

$33.80

Sidegate.

Sta. 3111–71. Width 44″. Depth 52″. Length 26 ft. 40%

Lumber 1,261 ft...	@	$25.00	per M	$31.50
Carpenter Work ..	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$72.60

$29.00

Sidegate.

Sta. 3112–73. Width 44″. Depth 54″. Length 25 ft. 30%

Lumber 1,333 ft...	@	$25.00	per M	$33.30
Carpenter Work ..	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$74.40

$22.30

2069

Sidegate.

Sta. 3116–42. Width 44″. Depth 44″. Length 26 ft. 30%

Lumber 1,108 ft...	@	$25.00	per M	$27.70
Carpenter Work ..	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$66.40

$19.90

Sidegate.

Sta. 3116–61. Width 42″. Depth 40″. Length 20 ft. 30%

Lumber 949 ft.....	@	$25.00	per M	$23.70
Carpenter Work ..	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$61.20

$18.40

Bridge.

Sta. 3126–97. Width 16 ft. Length 60 ft. 80%

Lumber 6,561 ft...@	$25.00 per M	$164.00	
Carpenter Work ..@	7.00 " "	46.20	
Hauling .....@	3.00 " "	19.80	
Iron .....@	2.00 " "	13.20	
Nails .....@	.30 " "	2.00	
Earth Work		25.00	
		$270.20	$216.20

2070 **Sidegate.**

Sta. 3127–24. Width 4 ft. Depth 46". Length 24 ft. 40%

Lumber 1,022 ft...@	$25.00 per M	$25.50	
Carpenter Work ..@	7.00 " "	7.00	
Hauling .....@	3.00 " "	3.00	
Iron .....@	2.00 " "	2.00	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$63.00	$25.20

Sidegate.

Sta. 3136–31. Width 3 ft. Depth 44". Length 20 ft. 50%

Lumber 810 ft.....@	$25.00 per M	$20.20	
Carpenter Work ..@	7.00 " "	5.60	
Hauling .....@	3.00 " "	2.40	
Iron .....@	2.00 " "	1.60	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$55.30	$27.60

Sidegate.

Sta. 3146–54. Width 66". Depth 80". Length 26 ft. 40%

Lumber 2,248 ft...@	$25.00 per M	$56.20	
Carpenter Work ..@	7.00 " "	15.40	
Hauling .....@	3.00 " "	6.60	
Iron .....@	2.00 " "	4.40	
Nails .....@	.30 " "	.70	
Earth Work		25.00	
		$108.30	$43.30

2071 Bridge.

Sta. 3147–06. Width 24 ft. Length 36 ft. 50%

Lumber 10,095 ft.	@	$25.00	per M	$252.40
Carpenter Work	@	7.00	" "	70.70
Hauling	@	3.00	" "	30.30
Iron	@	2.00	" "	20.20
Nails	@	.30	" "	3.00
Earth Work				25.00
				$401.60 $200.80

Sidegate.

Sta. 3149–88. Width 44". Depth 42". Length 28 ft. 60%

Lumber 1,237 ft.	@	$25.00	per M	$30.90
Carpenter Work	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$70.80 $42.50

Sidegate.

Sta. 3161–69. Width 4 ft. Depth 2 ft. Length 24 ft. 30%

Lumber 1,136 ft.	@	$25.00	per M	$28.40
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$67.10 $20.10

2072 Sidegate.

Sta. 3170–04. Width 66". Depth 84". Length 26 ft. 30%

Lumber 2,555 ft.	@	$25.00	per M	$63.90
Carpenter Work	@	7.00	" "	18.20
Hauling	@	3.00	" "	7.80
Iron	@	2.00	" "	5.20
Nails	@	.30	" "	.80
Earth Work				25.00
				$120.90 $36.30

Weir.

Sta. 3170–04. Width 26″. Depth 9 ft. Length 42 ft. 80%

Same as Station 2847–69		$634.90	$507.90

Sidegate.

Sta. 3183–12. Width 66″. Depth 74″. Length 26 ft. 30%

Lumber 2,129 ft.	@ $25.00 per M	$53.20	
Carpenter Work	@ 7.00 " "	14.70	
Hauling	@ 3.00 " "	6.30	
Iron	@ 2.00 " "	4.20	
Nails	@ .30 " "	.60	
Earth Work		25.00	
		$104.00	$31.20

Sidegate.

Sta. 3183–49. Width 66″. Depth 70″. Length 29 ft. 80%

Lumber 1,862 ft.	@ $25.00 per M	$46.50	
Carpenter Work	@ 7.00 " "	13.30	
Hauling	@ 3.00 " "	5.70	
Iron	@ 2.00 " "	3.80	
Nails	@ .30 " "	.60	
Earth Work		25.00	
		$94.90	$75.90

2073

Sidegate.

Sta. 3193–98. Width 46″. Depth 5 ft. Length 25 ft. 50%

Lumber 1,453 ft.	@ $25.00 per M	$36.30	
Carpenter Work	@ 7.00 " "	9.80	
Hauling	@ 3.00 " "	4.50	
Iron	@ 2.00 " "	2.80	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$78.90	$39.40

Sidegate.

Sta. 3209–52. Width 34″. Depth 54″. Length 23 ft. 30%

Lumber 958 ft.	@ $25.00 per M	$23.70	
Carpenter Work	@ 7.00 " "	7.00	
Hauling	@ 3.00 " "	3.00	
Iron	@ 2.00 " "	2.00	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$61.40	$18.40

Sidegate.

Sta. 3215–03. Width 44". Depth 44". Length 25 ft. 40%

Lumber 1,057 ft.	@	$25.00	per M	$26.40
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				25.00
				$76.00

$30.40

2074 Merced County.

Station 3225–00.

Total Cost of Structures	$39,557.00
Total Cost of Depreciation	23,419.10
Present Value	$16,137.90

2075 Outside Canal.

Merced County.

Bridge.

Sta. 1036–37. Width 20 ft. Length 10 ft. 30%

Lumber 1,047 ft.	@	$25.00	per M	$26.20
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$63.70

$19.10

Bridge.

Sta. 1036–37. Width 20 ft. Length 84 ft. 30%

Lumber 12,072 ft.	@	$25.00	per M	$301.80
Carpenter Work	@	7.00	" "	84.70
Hauling	@	3.00	" "	36.30
Iron	@	2.00	" "	24.20
Nails	@	.30	" "	3.60
Earth Work				25.00
				$475.60

$142.70

Sidegate.

Sta. 1116–35. Width 10 ft. Depth 50″. Length 10 ft. 30%

Lumber 1,096 ft.	@	$25.00	per M	$27.50	
Carpenter Work	@	7.00	" "	7.00	
Hauling	@	3.00	" "	3.00	
Iron	@	2.00	" "	2.00	
Nails	@	.30	" "	.50	
Earth Work				25.00	
				$65.00	$19.50

2076

Sidegate.

Sta. 1116–95. Width 10 ft. Depth 7 ft. Length 30 ft. 20%

Lumber 3,957 ft.	@	$25.00	per M	$98.90	
Carpenter Work	@	7.00	" "	28.00	
Hauling	@	3.00	" "	12.00	
Iron	@	2.00	" "	8.00	
Nails	@	.30	" "	1.20	
Earth Work				25.00	
				$173.10	$34.60

Sidegate.

Sta. 1117–61. Width 10 ft. Depth 54″. Length 10 ft. 30%

Lumber 1,112 ft.	@	$25.00	per M	$28.10	
Carpenter Work	@	7.00	" "	7.00	
Hauling	@	3.00	" "	3.30	
Iron	@	2.00	" "	2.20	
Nails	@	.30	" "	.50	
Earth Work				25.00	
				$66.80	$20.00

Weir.

Sta. 1118–51. Width 18 ft. Depth 74″. Length 60 ft. 30%

Lumber 16,200 ft.	@	$25.00	per M	$405.00	
Carpenter Work	@	7.00	" "	113.40	
Hauling	@	3.00	" "	48.60	
Iron	@	2.00	" "	32.40	
Nails	@	.30	" "	4.90	
Earth Work				120.00	
				$724.30	$217.30

2077 Outside Canal.

Sidegate.

Sta. 1149–66. Width 72″. Depth 60″. Length 20 ft. 20%

Lumber 1935 ft.	at $25.00 per M	$48.40	
Carpenter Work	at 7.00 " "	13.30	
Hauling	at 3.00 " "	5.70	
Iron	at 2.00 " "	3.80	
Nails	at .30 " "	.60	
Earth Work		25.00	
		$96.80	$19.40

Bridge.

Sta. 1151. Width 18 ft. Length 27 ft. 40%

Lumber 2504 ft.	at $25.00 per M	$62.60	
Carpenter Work	at 7.00 " "	17.50	
Hauling	at 3.00 " "	7.50	
Iron	at 2.00 " "	5.00	
Nails	at .30 " "	.80	
Earth Work		25.00	
		$118.40	$47.40

Gate in Side Ditch.

Sta. 1154. Width 10 ft. Depth 4 ft. Length 10 ft. 30%

Lumber 900 ft.	at $25.00 per M	$22.50	
Carpenter Work	at 7.00 " "	6.30	
Hauling	at 3.00 " "	2.70	
Iron	at 2.00 " "	1.80	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$58.80	$17.60

2078 Gate in Side Ditch.

Type D. Same as 1154 ..... Value $58.50 Depr. $17.60

Bridge.

Sta. 1205–04. Width 14 ft. Length 100 ft. 80%

Lumber 4874 ft.	at $25.00 per M	$121.90	
Carpenter Work	at 7.00 " "	34.30	
Hauling	at 3.00 " "	14.70	
Iron	at 2.00 " "	9.80	
Nails	at .30 " "	1.50	
Earth Work		25.00	
		$207.20	$41.40

Bridge.

Sta. 1205–89. Width 18 ft. Length 10 ft. 30%

Lumber 997 ft.	at $25.00 per M	$24.90	
Carpenter Work	at 7.00 " "	7.00	
Hauling	at 3.00 " "	3.00	
Iron	at 2.00 " "	2.00	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$62.40	$18.70

Sidegate.

Sta. 1206–97. Width 10 ft. Depth 72". Length 45 ft. 30%

Lumber 30003 ft.	at $25.00 per M	$75.10	
Carpenter Work	at 7.00 " "	21.00	
Hauling	at 3.00 " "	9.00	
Iron	at 2.00 " "	6.00	
Nails	at .30 " "	.90	
Earth Work		25.00	
		$137.00	$41.10

2079 Gate in Side Ditch.

Sta. 1207–43. Type D.

Same as Sta. 1154 ..... Value $58.00. Depr. $11.80 20%

Weir Type O–S.

Sta. 1208–43. Width 18 ft. Depth 6 ft. Length 60 ft. 20%

Lumber 16070 ft.	at $25.00 per M	$401.70	
Carpenter Work	at 7.00 " "	112.70	
Hauling	at 3.00 " "	48.30	
Iron	at 2.00 " "	32.20	
Nails	at .30 " "	4.80	
Earth Work		120.00	
		$719.70	$143.90

Bridge.

Sta. 1233–91. Width 20 ft. Length 18 ft. 40%

Lumber 1885 ft.	at $25.00 per M	$47.10	
Carpenter Work	at 7.00 " "	13.30	
Hauling	at 3.00 " "	5.70	
Iron	at 2.00 " "	3.80	
Nails	at .30 " "	.60	
Earth Work		25.00	
		$95.50	$38.20

Bridge.

Sta. 1269–02. Width 14 ft. Length 14 ft. 60%

Lumber 1045 ft.	at $25.00 per M	$26.10	
Carpenter Work	at 7.00 " "	7.30	
Hauling	at 3.00 " "	3.10	
Iron	at 2.00 " "	2.10	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$64.10	$34.50

2080 Sidegate in Side Di-.

Sta. 1275–75. Width 66". Depth 54". Length 24 ft. 100%

Lumber 1500 ft.	at $25.00 per M	$37.50	
Carpenter Work	at 7.00 " "	10.50	
Hauling	at 3.00 " "	4.50	
Iron	at 2.00 " "	3.00	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$81.00	$81.00

Gate in Side Ditch.

Sta. 1277–10. Type D. Same as Sta. 1207–43. 20%

$58.80 Dpr. $11.80

Sidegate from Side Ditch.

Sta. 1290–50 (For private use) 30%

Gate in Side Ditch.

Sta. 1290–92. Type D. Same as 1207–43 30%

Value $58.80 Depr. $17.60

Bridge.

Sta. 1320–80. Width 20 ft. Length 16 ft. 49%

Lumber 1676 ft.	at $25.00 per M	$41.00	
Carpenter Work	at 7.00 " "	11.90	
Hauling	at 3.00 " "	5.10	
Iron	at 2.00 " "	3.40	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$87.80	$35.10

2081 Sidegate.

Sta. 1322–62. Width 72". Depth 64". Length 24 ft. 20%

Lumber 2220 ft....at	$25.00	per M	$55.50
Carpenter Work ....at	7.00	" "	50.50
Hauling .....at	3.00	" "	6.60
Iron .....at	3.00	" "	4.40
Nails .....at	.30	" "	.60
Earth Work			25.00
			$107.60 $21.52

Bridge.

Sta. 1349–70. Width 22 ft. Length 10 ft. 60%

Lumber 1197 ft....at	$25.00	per M	$29.90
Carpenter Work ....at	7.00	" "	8.40
Hauling .....at	3.00	" "	3.60
Iron .....at	2.00	" "	2.40
Nails .....at	.30	" "	.50
Earth Work			25.00
			$69.80 $41.90

Bridge.

Sta. 1349–20. Width 20 ft. Length 80 ft. %0%

Lumber 8380 ft....at	$25.00	per M	$209.50
Carpenter Work ....at	7.00	" "	58.80
Hauling .....at	3.00	" "	25.20
Iron .....at	2.00	" "	16.80
Nails .....at	....	" "	2.60
Earth Work			25.00
			$337.90 $168.90

2082 Gate in Side Ditch.

Sta. 1372–26. Type D. Same as Sta. 1207–43. 20%.

Value $58.50. Depr. $11.70

Sidegate.

Sta. 1373–57. Width 10 ft. Depth 74". Length 22–. 20%.

Lumber 3,568 ft....at	$25.00	per M	$89.20
Carpenter Work....at	7.00	" "	25.20
Hauling .....at	3.00	" "	10.80
Iron .....at	2.00	" "	7.20
Nails .....at	.30	" "	1.10
Earth Work.....			25.00
			$158.50 $31.70

Weir. Type O-S.

Sta. 1375–12. Width 10 ft. Depth —. 20%.

Lumber 12,666 ft.	at $25.00 per M	$316.60	
Carpenter Work	at 7.00 " "	88.90	
Hauling	at 3.00 " "	38.10	
Iron	at 2.00 " "	25.40	
Nails	at .30 " "	3.80	
Earth Work		120.00	
		$529.80	$118.60

Sidegate in Side Ditch.

Sta. 1390–46. Type D. Same as 1207–43. 20%.

Value $58.50. Depr. $11.70

2083

Bridge.

Sta. 1408–51. Width 16 ft. Length 16 ft. 80%.

Lumber 1,340 ft.	at $25.00 per M	$33.50	
Carpenter Work	at 7.00 " "	9.40	
Hauling	at 3.00 " "	4.00	
Iron	at 2.00 " "	2.70	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$75.10	$60.00

Gate in Side Ditch.

Sta. 1423–70. Width 10 ft. Depth 56". Length 8 ft. 40%.

Lumber 1,110 ft.	at $25.00 per M	$27.70	
Carpenter Work	at 7.00 " "	7.70	
Hauling	at 3.00 " "	3.30	
Iron	at 2.00 " "	2.20	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$66.40	$26.60

Sidegate.

Sta. 1440–65 (for pumping). Obsolete. 60%.

Bridge in Side Ditch.

Sta. 1445–49. Width 16 ft. Depth 3 ft. Length 8 ft. 20%.

Lumber 2,525 ft....at	$25.00 per M	$63.10	
Carpenter Work....at	7.00 " "	17.50	
Hauling .....at	3.00 " "	7.50	
Iron .....at	2.00 " "	5.00	
Nails .....at	.30 " "	.70	
Earth Work.....		25.00	
		$118.20	$23.80

2084 Sidegate.

Sta. 1456–37. Width 10 ft. Depth 67". Length 24 ft. 20%.

Lumber 2,596 ft....at	$25.00 per M	$64.90	
Carpenter Work....at	7.00 " "	18.20	
Hauling .....at	3.00 " "	7.80	
Iron .....at	".00 " "	5.20	
Nails .....at	.30 " "	.80	
Earth Work.....		25.00	
		$121.90	$24.40

Bridge.

Sta. 1459–50. Width 14 ft. Length 88 ft. 20%.

Lumber 8,474 ft....at	$25.00 per M	$211.90	
Carpenter Work....at	7.00 " "	59.50	
Hauling .....at	3.00 " "	25.50	
Iron .....at	2.00 " "	17.00	
Nails .....at	2.00 " "	2.50	
Earth Work.....		25.00	
		$341.40	$68.30

Gate in Side Ditch.

Sta. 1462–97. Width 48". Depth 38". Length 42". 20%.

Lumber 241 ft.....at	$25.00 per M	$6.00	
Carpenter Work....at	7.00 " "	1.70	
Hauling .....at	3.00 " "	.70	
Iron .....at	2.00 " "	.50	
Nails .....at	2.00 " "	.50	
Earth Work.....		25.00	
		$34.40	$6.90

2085 Bridge.

Sta. 1471–78. Width 24 ft. Length 24 ft.

Lumber 1,676 ft....at	$25.00	per M	$41.90
Carpenter Work ...at	7.00	" "	11.90
Hauling .....at	3.00	" "	5.10
Iron .....at	2.00	" "	3.40
Nails .....at	.30	" "	.50
Earth Work.....			25.00
			$87.80

$26.20

Bridge.

Sta. 1471–81. Width 24 ft. Length 82 ft. 20%.

Lumber 12,742 ft...at	$25.00	per M	$318.50
Carpenter Work....at	7.00	" "	88.90
Hauling .....at	3.00	" "	38.10
Iron .....at	2.00	" "	25.40
Nails .....at	.30	" "	3.80
Earth Work.....			25.00
			$499.70

$119.90

Sidegate in Side Ditch.

Sta. 1511–72. Width 10 ft. Depth 54". Length 10 ft. 20%.

Lumber 1,110 ft....at	$25.00	per M	$27.80
Carpenter Work....at	7.00	" "	7.70
Hauling .....at	3.00	" "	3.30
Iron .....at	2.00	" "	2.20
Nails .....at	.30	" "	.50
Earth Work.....			25.00
			$66.50

$13.30

2086 Sidegate.

Sta. 1533–53. Width 10 ft. Depth 72". Length 27 ft. 20%.

Lumber 2,643 ft....at	$25.00	per M	$66.70
Carpenter Work....at	7.00	" "	18.20
Hauling .....at	3.00	" "	7.80
Iron .....at	2.00	" "	5.20
Nails .....at	.30	" "	.80
Earth Work.....			25.00
			$123.70

$24.70

Weir. Type O-S.

Sta. 1515–15. Same as Sta. 1375–12.

Value $592.80. Depr. 118.80. 20%

Gate in Side Ditch.

Sta. 1522–76. Same as Sta. 1423–70. 30%.

Value $26.40 Depr. $19.90

Side in Side Ditch.

Sta. 1524–62. Same as Sta. 1423–70.

Value $66.40 Depr. $13.30

Gate in Side Ditch.

Sta. 1533–83. Width 68". Depth 36". Length 7 ft. 20%.

Lumber 732 ft.	at $25.00 per M	$18.30	
Carpenter Work	at 7.00 " "	5.10	
Hauling	at 3.00 " "	2.20	
Iron	at 2.00 " "	1.50	
Nails	at .30 " "	.50	
Earth Work		25.00	
		$52.60	$10.50

2087

Bridge.

Sta. 1550–64. Width 24 ft. Length 16 ft. 40%

Lumber 1,960 —	at $25.00 per M	$49.00	
Carpenter Work	at 7.00 " "	14.00	
Hauling	at 3.00 " "	6.00	
Iron	at 2.00 " "	4.00	
Nails	at .30 " "	.60	
Earth Work		25.00	
		$98.60	$39.50

Bridge.

Sta. 150–72. Width 24 ft. Length 80 ft.

Lumber 12,503 ft.	at $25.00 per M	$312.60	
Carpenter Work	at 7.00 " "	87.50	
Hauling	at 3.00 " "	37.50	
Iron	at 2.00 " "	25.00	
Nails	at .30 " "	3.80	
Earth Work		25.00	
		$491.40	$196.60

Sidegate in Side Ditch.

Sta. 1559–85. Type D. Same as Sta. 1207–43. 30%

Value $58.80. Depr. $17.70

Gate in Side Ditch. No. O.–S. 32–B.

Sta. 1573–52. Width 6 ft. Depth 4 ft. Length 6 ft 20%

Lumber 582 ft.....at	$25.00	per M	$14.50
Carpenter Work ...at	7.00	" "	4.10
Hauling .....at	3.00	" "	1.60
Iron .....at	2.00	" "	1.20
Nails .....at	.30	" "	.50
Earth Work			25.00
			$46.90 $9.40

2088 Sidegate.

Sta. 1583–70. Width 66". Depth 54". Length 24 ft. New.

Lumber 1,849 ft....at	$25.00	per M	$41.20
Carpenter Work ...at	7.00	" "	11.20
Hauling .....at	3.00	" "	4.80
Iron .....at	2.00	" "	3.20
Nails .....at	.30	" "	.50
Earth Work			25.00
			$85.90 $85.90

Bridge, Co. Rd.

Sta. 1688–63. Width 24 ft. Length 104 ft. 60%

Lumber 16,007 —..at	$25.00	per M	$402.70
Carpenter Work ...at	7.00	" "	112.70
Hauling .....at	3.00	" "	48.30
Iron .....at	2.00	" "	32.80
Nails .....at	.30	" "	4.80
Earth Work			25.00
			$625.70 $312.80

Bridge in Side Ditch.

Sta. 1588–76. Width 32 ft. Length 18 ft. 50%

Lumber 1,164 ft....at	$25.00	per M	$29.10
Carpenter Work ...at	7.00	" "	8.40
Hauling .....at	3.00	" "	3.60
Iron .....at	2.00	" "	2.40
Nails .....at	.30	" "	.50
Earth Work			25.00
			$69.00 $34.50

2089 Sidegate in Side Ditch.

Sta. 1797–91. Type D. Same as Sta. 1207–43. 30%

Value $58.80. Depr. $17.60

Gate in Side Ditch.

Sta. 1609–30. Type D. Same as Sta. 1207–43. 30%

Value $58.80. Depr. $17.60

Gate in Side Ditch.

Sta. 1639–58. Type D. Same as Sta. 1207–43. 30%

Value $58.80. Depr. $17.60

Sidegate.

Sta. 1640–72. Width 10 ft. Depth 72". Length 28 ft. 30%

Lumber 3,520 —...at	$25.00 per M	$88.00	
Carpenter Work ...at	7.00 " "	24.50	
Hauling .....at	3.00 " "	10.50	
Iron .....at	2.00 " "	7.00	
Nails .....at	.30 " "	1.00	
Earth Work		25.00	
		$156.00	$46.80

Weir. Type O–S.

Sta. 1641–45. Same as Sta. 1375–12. 20%

Value $592.80. Depr. $237.20

Gate in Side Ditch.

Sta. 1641–52. Type D. Same as Sta. 1207–43. 20%

Value $58.80. Depr. $11.80

2090 Sidegate.

Sta. 1669–80. Width 36". Depth 48". Length 20 ft. New.

Lumber 884 ft....at	$25.00 per M	$22.10	
Carpenter Work ...at	7.00 " "	6.20	
Hauling .....at	3.00 " "	2.60	
Iron .....at	2.00 " "	1.80	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$58.20	$58.20

Sidegate.

Sta. 1682–46. Width 10 ft. Depth 64″. Length 24 ft. 20%

Lumber 2,729 ft....at	$25.00	per M	$68.20
Carpenter Work ...at	7.00	" "	18.90
Hauling .....at	3.00	" "	8.10
Iron .....at	2.00	" "	5.40
Nails .....at	.30	" "	.80
Earth Work			25.00
			$126.40

$25.30

Sidegate.

Sta. 1690–67. Width 48″. Depth 48″. Length 20 ft. 20%

Lumber 800 ft.....at	$25.00	per M	$20.00
Carpenter Work ...at	7.00	" "	5.60
Hauling .....at	3.00	" "	2.40
Iron .....at	2.00	" "	1.60
Nails .....at	.30	" "	.50
Earth Work			25.00
			$55.10

$16.50

2091

Sidegate.

Sta. 1700–49. Width 6 ft. Depth 54″. Length 20 ft. 20%

Lumber 1,432 ft....at	$25.00	per M	$35.80
Carpenter Work ...at	7.00	" "	10.00
Hauling .....at	3.00	" "	4.30
Iron .....at	2.00	" "	2.90
Nails .....at	.30	" "	.50
Earth Work			25.00
			$78.50

$15.70

Gate in Side Ditch.

Sta. 1708–51. Width 8 ft. Depth 62″. Length 12 ft. 30%

Lumber 1,228 ft....at	$25.00	per M	$30.70
Carpenter Work ...at	7.00	" "	8.50
Hauling .....at	3.00	" "	3.60
Iron .....at	2.00	" "	2.40
Nails .....at	.30	" "	.50
Earth Work			25.00
			$70.70

$21.20

Bridge. Co. Rd.

Sta. 1710–45.	Width 24 ft.	Length 104 ft.	20%
Lumber 19,030 ft...at	$25.00 per M	$475.70	
Carpenter Work ...at	7.00 " "	133.00	
Hauling .....at	3.00 " "	57.00	
Iron .....at	2.00 " "	38.00	
Nails .....at	.30 " "	5.70	
Earth Work		25.00	
		$734.40	$146.90

2092 Bridge.

Sta. 1710–74.	Width 30 ft.	Length 12 ft.	20%
Lumber 1,437 ft....at	$25.00 per M	$35.90	
Carpenter Work ...at	7.00 " "	10.00	
Hauling .....at	3.00 " "	4.30	
Iron .....at	2.00 " "	2.80	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$78.50	$15.70

Sidegate.

Sta. 1718–91.	Width 6 ft.	Depth 54".	Length 20 ft.	20%
Lumber 1,172 ft....at	$25.00 per M		$29.30	
Carpenter Work ...at	7.00 " "		8.40	
Hauling .....at	3.00 " "		3.60	
Iron .....at	2.00 " "		2.40	
Nails .....at	.30 " "		.50	
Earth Work			25.00	
			$69.20	$13.80

Gate in Side Ditch.

Sta. 1721–58. Width 10 ft. Depth 54". Length 10 ft. 30%

Lumber. Same as Sta. 1207–43 Value $58.80. Depr. $17.60

2093 Sidegate.

Sta. 1725–70.	Width 10 ft.	Depth 60".	Length 28 ft.	30%
Lumber 3,445 ft....at	$25.00 per M		$86.10	
Carpenter Work ...at	7.00 " "		23.80	
Hauling .....at	3.00 " "		10.20	
Iron .....at	2.00 " "		6.80	
Nails .....at	.30 " "		.70	
Earth Work			25.00	
			$152.60	$45.80

Gate in Side Ditch.

Sta. 1732–44. Width 10 ft. Depth 54″. Length 20 ft. 20%

Same as Sta. 1423–70. Value $65.40. Depr. $12.90

Sidegate in Side Ditch.

Sta. 1738–03. Width 10 ft. Depth 48″. Length 9 ft. 40%

Same as Sta. 1270–43. Value $58.80. Depr. $23.50

Bridge.

Sta. 1744–95. Width 14 ft Length 24 ft.

Lumber 1,794 ft....at	$25.00 per M	$44.90	
Carpenter Work ...at	7.00 " "	12.60	
Hauling .....at	3.00 " "	5.40	
Iron .....at	2.00 " "	3.60	
Nails .....at	.30 " "	.70	
Earth Work		25.00	
		$92.00	$55.20

2094 Bridge.

Sta. 1744–95. Width 14 ft. Length 84 ft. 60%

Lumber 9,497 ft....at	$25.00 per M	$239.90	
Carpenter Work ...at	7.00 " "	67.20	
Hauling .....at	3.00 " "	28.60	
Iron .....at	2.00 " "	19.20	
Nails .....at	.30 " "	2.80	
Earth Work		25.00	
		$382.70	$229.90

Sidegate.

Sta. 1756–60. Width 6 ft. Depth 48″. Length 20 ft. 20%

Lumber 1,477 ft....at	$25.00 per M	$36.90	
Carpenter Work ...at	7.00 " "	10.50	
Hauling. .....at	3.00 " "	4.50	
Iron .....at	2.00 " "	3.00	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$80.40	$16.10

Sidegate.

Sta. 1858–27. Width 8 ft. Depth 72". Length 24 ft. 30%

Lumber 2,859 ft....at	$25.00 per M	$71.50	
Carpenter Work ...at	7.00 " "	19.60	
Hauling .....at	3.00 " "	8.40	
Iron .....at	2.00 " "	5.60	
Nails .....at	.30 " "	.80	
Earth Work		25.00	
		$130.90	$39.30

2095 Sidegate.

Sta. 1775–37. Width 14 ft. Depth 72". Length 30 ft. 20%

Lumber 4,055 ft....at	$25.00 per M	$101.40	
Carpenter Work ...at	7.00 " "	28.00	
Hauling .....at	3.00 " "	12.00	
Iron .....at	2.00 " "	8.00	
Nails .....at	.30 " "	1.20	
Earth Work		25.00	
		$175.60	$35.10

Weir. Type, O–S.

Sta. 1776–46. 20%

Lumber 12,666 ft...at	$25.00 per M	$316.70	
Carpenter Work ...at	7.00 " "	88.20	
Hauling .....at	3.00 " "	37.80	
Iron .....at	2.00 " "	25.20	
Nails .....at	.30 " "	3.80	
Earth Work		120.00	
		$591.70	$118.30

Two Weir Across Los Banos Creek.

Sta. 1780–45. Width 24 ft. Depth 14 ft. 5" W. of C. 100 ft. 30%

Lumber 43,847 ft...at	$25.00 per M	$1,096.20	
Carpenter Work ...at	7.00 " "	306.90	
Hauling .....at	3.00 " "	131.50	
Iron .....at	2.00 " "	87.60	
Nails .....at	.30 " "	13.10	
Earth Work		120.00	
		$1,755.30	$526.70
Total for two Weirs.....		$3,510.60	$1,053.40

2096 *Canal Camp.*

		30%
House	$350.00	
Barn	175.00	
Bunkhouse	75.00	
Outbuildings	75.00	
Fences	75.00	
	$750.00	$225.00

Weir.

Sta. 1781–44. Width 18 ft. Depth 7 ft. 8″. Length 40 ft. 30%

Lumber 12,914 ft. . . at	$25.00	per M	$322.90
Carpenter Work . . . at	7.00	" "	90.30
Hauling . . . . . at	3.00	" "	38.70
Iron . . . . . at	2.00	" "	25.80
Nails . . . . . at	.30	" "	3.90
Earth Work			120.00
			$601.60

$180.50

Bridge.

Sta. 1784–20. Width 12 ft. Length 42 ft.

Lumber 2,887 ft. . . . at	$25.00	per M	$72.20
Carpenter Work . . . at	7.00	" "	20.30
Hauling . . . . . at	3.00	" "	8.70
Iron . . . . . at	2.00	" "	5.80
Nails . . . . . at	.30	" "	.90
Earth Work			25.00
			$132.90

$53.20

2097 Sidegate.

Sta. 1804–19. Width 10 ft. Depth 74″. Length 20 ft. 40%

Lumber 2,468 ft. . . . at	$25.00	per M	$61.70
Carpenter Work . . . at	7.00	" "	17.50
Hauling . . . . . at	3.00	" "	7.50
Iron . . . . . at	2.00	" "	5.00
Nails . . . . . at	.30	" "	.80
Earth Work			25.00
			$117.50

$47.00

Bridge.

Sta. 1833–26. Width 18 ft. Length 5 ft. 30%

Lumber 463 ft.....at	$25.00 per M	$11.60	
Carpenter Work ...at	7.00 " "	3.30	
Hauling .....at	3.00 " "	1.40	
Iron .....at	2.00 " "	.90	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$42.20	$12.70

Bridge.

Sta. 1833–26. Width 16 ft. Length 78 ft. 20%

Lumber 8,580 ft....at	$25.00 per M	$214.50	
Carpenter Work ...at	7.00 " "	60.20	
Hauling .....at	3.00 " "	25.80	
Iron .....at	2.00 " "	17.20	
Nails .....at	.30 " "	2.60	
Earth Work		25.00	
		$345.30	$79.10

2098 **Sidegate.**

Sta. 1833–81. Width 10 ft. Depth 86". Length 28 ft 30%

Lumber 3,443 ft....at	$25.00 per M	$86.10	
Carpenter Work ...at	7.00 " "	23.80	
Hauling .....at	3.00 " "	10.20	
Iron .....at	2.00 " "	8.80	
Nails .....at	.30 " "	1.00	
Earth Work		25.00	
		$152.90	$45.90

Bridge.

Sta. 1880–81. Width 16 ft. Length 104 ft. 20%

Lumber 11,270 ft...at	$25.00 per M	$281.70	
Carpenter Work ...at	7.00 " "	79.10	
Hauling .....at	3.00 " "	33.90	
Iron .....at	2.00 " "	22.60	
Nails .....at	.30 " "	3.40	
Earth Work		25.00	
		$445.70	$89.10

Sidegate.

Sta. 1886–74. Width 10 ft. Depth 90″. Length 28 ft. 30%

Lumber 3,727 ft....at	$25.00	per M	$93.20
Carpenter Work ...at	7.00	" "	25.90
Hauling .....at	3.00	" "	11.10
Iron .....at	2.00	" "	7.40
Nails .....at	.30	" "	1.10
Earth Work			25.00
			$163.70

$49.10

2099 Bridge.

Sta. 1897–34. Width 16 ft. Length 100 ft. 20%

Lumber 10935 ft....at	$25.00	per M	$273.40
Carpenter Work ...at	7.00	" "	76.30
Hauling .....at	3.00	" "	32.70
Iron .....at	2.00	" "	21.80
Nails .....at	.30	" "	3.30
Earth Work			25.00
			$432.50

$129.70

Sidegate.

Sta. 1936–24. Width 10 ft. Depth 90″. Length 28 ft. 20%

Lumber 4102 ft.....at	$25.00	per M	$202.50
Carpenter Work ....at	7.00	" "	28.70
Hauling .....at	3.00	" "	12.30
Iron .....at	2.00	" "	8.20
Nails .....at	.30	" "	1.20
Earth Work			25.00
			$177.90

$35.60

Bridge.

Sta. 1958–48. Width 24 ft. Length 86 ft. 30%

Lumber 13951 ft....at	$25.00	per M	$348.80
Carpenter Work....at	7.00	" "	97.30
Hauling .....at	3.00	" "	41.70
Iron .....at	2.00	" "	27.80
Nails .....at	.30	" "	4.10
Earth Work			25.00
			$544.70

$163.40

2100 Sidegate for Spillway.

Sta. 2040–73. Width 20 ft. Depth 140". Length 24 ft. 20%

Lumber 7756 ft.	at	$25.00	per M	$193.90
Carpenter Work	at	7.00	" "	53.90
Hauling	at	3.00	" "	23.10
Iron	at	2.00	" "	15.40
Nails	at	.30	" "	2.30
Earth Work				25.00
				$313.60

$62.70

Bridge.

Sta. 2046–24. Width 20 ft. Length 60 ft. New.

Lumber 8249	at	$25.00	per M	$206.20
Carpenter Work	at	7.00	" "	57.40
Hauling	at	3.00	" "	24.60
Iron	at	2.00	" "	16.40
Nails	at	.30	" "	2.50
Earth Work				25.00
				$332.10

$332.10

Bridge.

Sta. 2046–60. Width 12 ft. Length 48 ft. 30%

Lumber 4608 ft.	at	$25.00	per M	$115.20
Carpenter Work	at	7.00	" "	32.20
Hauling	at	3.00	" "	13.80
Iron	at	2.00	" "	9.20
Nails	at	.30	" "	1.40
Earth Work				25.00
				$196.80

$59.10

2101 Sidegate.

Sta. 2048–72. Width 10 ft. Depth 92". Length 20 ft. 30%

Lumber 3814 ft.	at	$25.00	per M	$95.40
Carpenter Work	at	7.00	" "	26.60
Hauling	at	3.00	" "	11.40
Nails	at	.30	" "	1.10
Earth Work				25.00
				$167.10

$50.10

Weir.

Sta. 2050–78. Width 14 ft. Depth 48". Length 40 ft. 20%

Lumber 12648 ft....at	$25.00 " "	$316.20	
Carpenter Work.....at	7.00 " "	88.20	
Hauling .....at	3.00 " "	37.80	
Iron .....at	2.00 " "	25.20	
Nails .....at	.30 " "	3.80	
Earth Work		120.00	
		$481.20	$96.20

Sidegate.

Sta. 2109–66. Width 67". Depth 84". Length 20 ft. 20%

Lumber 2331 ft.....at	$25.00 per M	$58.20	
Carpenter Work ....at	7.00 " "	16.10	
Hauling .....at	3.00 " "	6.90	
Iron .....at	2.00 " "	4.40	
Nails .....at	.30 " "	.70	
Earth Work		25.00	
		$111.30	$22.30

2102

Sidegate.

Sta. 2118–34. Width 10 ft. Depth 72". Length 28 ft. 20%

Lumber 2134 ft.....at	$25.00 per M	$78.10	
Carpenter Work ....at	7.00 " "	21.70	
Hauling .....at	3.00 " "	9.30	
Iron .....at	2.00 " "	6.20	
Nails .....at	.30 " "	.90	
Earth Work		25.00	
		$141.20	$28.20

Bridge.

Sta. 2137–03. Width 14 ft. Length 54 ft. 80%

Lumber 4984 ft ....at	$25.00 per M	$124.80	
Carpenter Work ....at	7.00 " "	35.00	
Hauling .....at	3.00 " "	15.00	
Iron .....at	2.00 " "	10.00	
Nails .....at	.30 " "	1.50	
Earth Work		25.00	
		$211.10	$168.90

Gate in Side Ditch. Type E.

Sta. 2155–97. Width 102″. Depth 40″. Length 88″. 30%

Lumber 760 ft.....at	$25.00 per M	$19.00	
Carpenter Work ....at	7.00 " "	5.60	
Hauling.....at	3.00 " "	2.10	
Iron .....at	2.00 " "	1.40	
Nails .....at	.30 " "	.50	
Earth Work		25.00	
		$53.60	$16.10

2103 Sidegate.

Sta. 2157–91. Width 10 ft. Depth 72″. Length 26 ft. 30%

Lumber 3046 ft.....at	$25.00 per M	$85.10	
Carpenter Work ....at	7.00 " "	23.80	
Hauling .....at	3.00 " "	10.20	
Iron .....at	2.00 " "	6.80	
Nails .....at	.30 " "	1.00	
Earth Work		25.00	
		$151.00	$45.60

Gate in Side Ditch.

Sta. 2168–99. Type E. Same as Sta. 2155–97. 30%

Value $53.60 Depr. 16.10

Gate in Side Ditch.

Sta. 2178–79. Type E. Same as Sta. 2155–97. 30%

Value $53.60 Depr. 16.10

Sidegate.

Sta. 2193–71. Width 72″. Depth 72″. Length 26 ft. 20%

Lumber 2311 ft.....at	$25.00 per M	$57.80	
Carpenter Work ....at	7.00 " "	16.40	
Hauling .....at	3.00 " "	6.90	
Iron .....at	2.00 " "	4.60	
Nails .....at	.30 " "	.70	
Earth Work		25.00	
		$111.40	$22.30

2104 **Bridge.**

Sta. 2217–85. Width 24 ft. Length 52 ft. 30%

Lumber 8,419 ft.	@	$25.00	per M	$210.50
Carpenter Work	@	7.00	" "	58.80
Hauling	@	3.00	" "	25.20
Iron	@	2.00	" "	16.80
Nails	@	.30	" "	2.50
Earth Work				25.00
				$338.80

$101.60

Sidegate.

Sta. 2223–76. Width 10 ft. Depth 62". Length 26 ft. 30%

Lumber 2,468 ft.	@	$25.00	per M	$61.70
Carpenter Work	@	7.00	" "	17.50
Hauling	@	3.00	" "	7.50
Iron	@	2.00	" "	5.00
Nails	@	.30	" "	.70
Earth Work				25.00
				$117.40

$35.20

Weir.

Sta. 2241–00. Width 16 ft. Depth 78". Length 40 ft. 20%

Lumber 12,724 ft.	@	$25.00	per M	$318.10
Carpenter Work	@	7.00	" "	88.90
Hauling	@	3.00	" "	38.10
Iron	@	2.00	" "	25.40
Nails	@	.30	" "	3.80
Earth Work				120.00
				$594.30

$118.90

2105 **Weir.**

Sta. 2243–91. Width 20 ft. Depth 10 ft. Length 60 ft. 30%

Lumber 19,812 ft.	@	$25.00	per M	$495.30
Carpenter Work	@	7.00	" "	138.60
Hauling	@	3.00	" "	59.40
Iron	@	2.00	" "	39.60
Nails	@	.30	" "	5.90
Earth Work				120.00
				$858.80

$257.60

Weir.

Sta. 2252–17. Width 16 ft. Depth 7 ft. Length 40 ft. 20%

Lumber 12,648 ft.	@	$25.00	per M	$316.20	
Carpenter Work	@	7.00	" "	88.20	
Hauling	@	3.00	" "	37.80	
Iron	@	2.00	" "	25.20	
Nails	@	.30	" "	3.80	
Earth Work				120.00	
				$591.20	$118.20

Sidegate.

Sta. 2251–31. Width 10 ft. Depth 6 ft. Length 24 ft. 30%

Lumber 2,516 ft.	@	$25.00	per M	$64.10	
Carpenter Work	@	7.00	" "	18.20	
Hauling	@	3.00	" "	7.80	
Iron	@	2.00	" "	5.20	
Nails	@	.30	" "	.80	
Earth Work				25.00	
				$121.10	$36.30

2106 Sidegate.

Sta. 2294"21. Width 8 ft. Depth 70". Length 20 ft. 30%

Lumber 3,180 ft.	@	$25.00	per M	$79.50	
Carpenter Work	@	7.00	" "	22.40	
Hauling	@	3.00	" "	9.60	
Iron	@	2.00	" "	6.60	
Nails	@	.30	" "	1.00	
Earth Work				25.00	
				$144.10	$23.20

Sidegate.

Sta. 2319–74. Width 10 ft. Depth 78". Length 26 ft. 20%

Lumber 2,702 ft.	@	$25.00	per M	$67.50	
Carpenter Work	@	7.00	" "	18.90	
Hauling	@	3.00	" "	8.10	
Iron	@	2.00	" "	5.40	
Nails	@	.30	" "	.80	
Earth Work				25.00	
				$125.70	$25.10

Bridge.

Sta. 2333–07. Width 18 ft. Length 160 ft. 40%

Lumber 6,418 ft. . . .	@	$25.00	per M	$160.40
Carpenter Work . . .	@	7.00	" "	51.30
Hauling	@	3.00	" "	19.20
Iron	@	2.00	" "	12.80
Nails	@	.30	" "	1.90
Earth Work				25.00
				$270.60

$108.20

2107 **Sidegate.**

Sta. 2363–67. Width 10 ft. Depth 78". Length 26 ft. 20%

Lumber 3,087 ft. . . .	@	$25.00	per M	$77.20
Carpenter Work . . .	@	7.00	" "	21.70
Hauling	@	3.00	" "	9.90
Iron	@	2.00	" "	6.60
Nails	@	.30	" "	1.00
Earth Work				25.00
				$141.40

$28.30

Sidegate.

Sta. 2361–71. Width 8 ft. Depth 4 ft. Length 24 ft. 10%

Lumber 1,667 ft. . . .	@	$25.00	per M	$41.70
Carpenter Work . . .	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$87.60

$8.80

Bridge.

Sta. 2364–82. Width 16 ft. Length 66 ft. 60%

Lumber 7,063	@	$25.00	per M	$176.60
Carpenter Work . . .	@	.00	" "	49.70
Hauling	@	3.00	" "	21.30
Iron	@	2.00	" "	14.20
Nails	@	.30	" "	2.10
Earth Work				25.00
				$388.90

$173.30

2108 **Sidegate.**

Sta. 2367–44. Width 3 ft. Depth 74″. Length 24 ft. 20%

Lumber 1,632 ft...	@	$25.00	per M	$40.80
Carpenter Work ...	@	7.00	" "	11.40
Hauling	@	3.00	" "	4.90
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$86.10 $17.40

Sidegate.

Sta. 2367–44. Width 10 ft. Depth 8 ft. Length 27 ft. 30%
Lumber 2367–44. *Width* 10 *ft. Depth* 8 *ft. Length* 27 *ft.* 30%

Carpenter Work ...	@	$25.00	per M	$85.90
Carpenter Work ...	@	7.00	" "	24.00
Hauling	@	3.00	" "	10.30
Iron	@	2.00	" "	6.90
Nails	@	.30	" "	1.00
Earth Work				25.00
				$153.10 $45.90

Weir.

Sta. 2368–15. Same as Station 2252–17. 10%
$591.20 $59.10

Sidegate.

Sta. 2368–38. Width 10 ft. Depth 76″. Length 27 ft. 30%

Lumber 2,934 ft...	@	$25.00	per M	$73.40
Carpenter Work ...	@	7.00	" "	20.50
Hauling	@	3.00	" "	8.80
Iron	@	2.00	" "	5.90
Nails	@	.30	" "	.90
Earth Work				25.00
				$134.50 $40.35

2109 **Bridge.**

Sta. 2389–68. Width 16 ft. Length 50 ft. 20%

Lumber 5,223 ft...	@	$25.00	per M	$143.10
Carpenter Work ...	@	7.00	" "	39.90
Hauling	@	3.00	" "	17.10
Iron	@	2.00	" "	11.40
Nails	@	.30	" "	1.70
Earth Work				25.00
				$238.20 $47.70

Sidegate.

Sta. 2415–39. Width 38". Depth 54". Length 24 ft. 10%

Lumber 1,076 ft. . .	@	$25.00	per M	$26.90
Carpenter Work . . .	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$65.60

$6.60

Bridge.

Sta. 2415–53. Width 12 ft. Length 42 ft. 50%

Lumber 3,759 ft. . .	@	$25.00	per M	$94.00
Carpenter Work . . .	@	7.00	" "	26.60
Hauling	@	3.00	" "	11.30
Iron	@	2.00	" "	7.50
Nails	@	.30	" "	1.10
Earth Work				25.00
				$165.50

$82.80

2110 Sidegate.

Sta. 2442–71. Width 10 ft. Depth 78". Length 29 ft. 20%

Lumber 3,272 ft . .	@	$25.00	per M	$81.80
Carpenter Work . . .	@	7.00	" "	23.10
Hauling	@	3.00	" "	9.90
Iron	@	2.00	" "	6.60
Nails	@	.30	" "	1.00
Earth Work				25.00
				$147.40

$29.60

Bridge.

Sta. 2442–72. Width 20 ft. Length 64 ft. 30%

Lumber 8,668 ft. . .	@	$25.00	per M	$266.70
Carpenter Work . . .	@	7.00	" "	60.90
Hauling	@	3.00	" "	26.10
Iron	@	2.00	" "	17.40
Nails	@	.30	" "	2.60
Earth Work				25.00
				$398.70

$119.60

Sidegate.

Sta. 2450–29. Width 60″. Depth 40″. Length 20 ft. 20%

Lumber 1,205 ft. . .	@	$25.00	per M	$30.10
Carpenter Work . . .	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$70.00

$14.00

2111 Bridge.

Sta. 2459–51. Width 16 ft. Length 50 ft. 30%

Lumber 5,723 ft. . .	@	$25.00	per M	$143.10
Carpenter Work . . .	@	7.00	" "	39.90
Hauling	@	3.00	" "	17.10
Iron	@	2.00	" "	11.40
Nails	@	.30	" "	.70
Earth Work				25.00
				$238.20

$71.50

Sidegate.

Sta. 2472–51. Width 10 ft. Depth 78″. Length 28 ft 30%

Lumber 3,230 ft. . .	@	$25.00	per M	$80.70
Carpenter Work . . .	@	7.00	" "	22.60
Hauling	@	3.00	" "	9.60
Iron	@	2.00	" "	6.40
Nails	@	.30	" "	1.00
Earth Work				25.00
				$145.30

$43.60

Sidegate.

Sta. 2485–18. Width 68″. Depth 5 ft. Length 26 ft. 20%

Lumber 1,925 ft. . .	@	$25.00	per M	$48.10
Carpenter Work . . .	@	7.00	" "	13.30
Hauling	@	3.00	" "	5.70
Iron	@	2.00	" "	3.80
Nails	@	.30	" "	.60
Earth Work				25.00
				$96.50

$19.30

2112 Sidegate.

Sta. 2503–61. Width 10 ft. Depth 17 ft. Length 29 ft. 30%

Lumber 3,484 ft. . .	@	$25.00	per M	$87.10
Carpenter Work . . .	@	7.00	" "	24.50
Hauling	@	3.00	" "	10.50
Iron	@	2.00	" "	7.00
Nails	@	.30	" "	1.10
Earth Work				25.00
				$155.20

$46.60

Bridge.

Sta. 2504–29. Width 24 ft. Length 62 ft. 30%

Lumber 9,619 ft. . .	@	$25.00	per M	$240.50
Carpenter Work . . .	@	7.00	" "	67.40
Hauling	@	3.00	" "	28.80
Iron	@	2.00	" "	19.20
Nails	@	.30	" "	2.90
Earth Work				25.00
				$383.80

$115.10

Spillway.

Sta. 2505–21. Width 20 ft. Depth 8 ft. Length 20 ft. 30%

Lumber 7,000 ft. . .	@	$25.00	per M	$175.00
Carpenter Work . . .	@	7.00	" "	49.00
Hauling	@	3.00	" "	21.00
Iron	@	2.00	" "	14.00
Nails	@	.30	" "	2.10
Earth Work				120.00
				$381.10

$114.30

2113 Sidegate.

Sta. 2517–40. Width 10 ft. Depth 74". Length 30 ft. 20%

Lumber 3,179 ft. . .	@	$25.00	per M	$79.50
Carpenter Work . . .	@	7.00	" "	22.40
Hauling	@	3.00	" "	9.60
Iron	@	2.00	" "	6.40
Nails	@	.30	" "	1.00
Earth Work				25.00
				$143.90

$48.80

Weir.

Sta. 2519–80. Width 16 ft. Depth 80". Length 40 ft. 20%

Same as Station 2252–17. $591.20 $119.20

Sidegate.

Sta. 2538–68. Width 38". Depth 64". Length 26 ft. 30%

Lumber 1,770 ft...@	$25.00 per M	$44.30	
Carpenter Work ...@	7.00 " "	12.60	
Hauling .....@	3.00 " "	5.40	
Iron .....@	2.00 " "	3.60	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$91.40	$27.40

Sidegate.

Sta. 2541–23. Width 72". Depth 5 ft. Length 20 ft 30%

Lumber 1,653 ft...@	$25.00 per M	$41.30	
Carpenter Work ...@	7.00 " "	11.50	
Hauling .....@	3.00 " "	4.80	
Iron .....@	2.00 " "	3.20	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$86.30	$25.90

2114

Sidegate.

Sta. 2555–45. Width 6 ft. Depth 66". Length 26 ft. 20%

Lumber 2,278 ft. ..@	$25.00 per M	$56.90	
Carpenter Work ..@	7.00 " "	16.10	
Hauling .....@	3.00 " "	6.90	
Iron .....@	2.00 " "	4.60	
Nails .....@	.30 " "	.70	
Earth Work		25.00	
		$110.20	$22.00

Weir.

Sta. 2562–62. Width 16 ft. Depth 7 ft. Length 30 ft. 20%

Lumber 9,486 ft. ..@	$25.00 per M	$237.10	
Carpenter Work ...@	7.00 " "	66.50	
Hauling .....@	3.00 " "	28.50	
Iron .....@	2.00 " "	19.00	
Nails .....@	.30 " "	2.80	
Earth Work		120.00	
		$473.90	**$94.80**

Gate.

Sta. 2567–55. Width 16 ft. Depth 7 ft. Length 12 ft. 40%

Lumber 4200 ft.	@	$25.00	per M	$105.00
Carpenter Work	@	7.00	" "	29.40
Hauling	@	3.00	" "	12.60
Iron	@	2.00	" "	8.40
Nails	@	.30	" "	1.30
Earth Work				25.00
				$181.70

$72.70

2115 Merced County.

Station 2567–55.

Total Cost of Structures	$29,651.70
Total Depreciation	8,836.65
Present Value	$20,815.05

2116 *Estimate of Value of the San Joaquin & Kings River Canal & Irrigation Company's Canal, Stanislaus County, California.*

Total Present Value of Structures	$6,572.30
Total Present Value of Earth Work	9,676.00
Engineering & Supervision, 10%	2,285.00
Contingencies, 10%	2,285.00
Total Value	$20,818.30

2117 Earth Work in Stanislaus County, Main Canal.

Sta. 3225–00—3468–00	91,151 yds.
Sta. 3468–00—3530–00	33,256 yds.
Sta. 3530–00—3535–00	505 yds.
Sta. 3535–00—3547–15	6,524 yds.
Sta. 3547–00—3746–31	62,084 yds.
Total Earth Work	193,520 yds.

Cost 193,520 yds. @ $.05 $9,676.00

Telephone Lines, Stanislaus County.

7 Miles @ $115.00 per Mile	$805.00	30%
⅓ Charged to Miller & Lux	268.00	
⅔ Charged to the Canal Company	$537.00	$162.00

Canal Camp, Main Canal.

Sta. 3590	House	$400.00	
	Barn	175.00	
	Chicken House	40.00	
	Bunk House	25.00	
	Fence	25.00	
	Well	60.00	
		$725.00	$227.50

2118 Stanislaus County, Main Canal.

Sidegate.

Sta. 3228–37. Width 66". Depth 80". Length 28 ft. 30%

Lumber 2,355 ft.	@ $25.00 per M	$58.90	
Carpenter Work	@ 7.00 " "	16.10	
Hauling	@ 3.00 " "	6.90	
Iron	@ 2.00 " "	4.60	
Nails	@ .30 " "	.70	
Earth Work		25.00	
		$112.20	$33.70

Bridge.

Sta. 324–24. Width 16 ft. Length 67 ft. 90%

Lumber 7,147 ft.	@ $25.00 per M	$178.70	
Carpenter Work	@ 7.00 " "	49.70	
Hauling	@ 3.00 " "	21.30	
Iron	@ 2.00 " "	14.20	
Nails	@ .30 " "	2.10	
Earth Work		25.00	
		$291.00	$261.90

Sidegate.

Sta. 324–78. Width 42". Depth 58". Length 28 ft. 40%

Lumber 1,406 ft.	@ $25.00 per M	$35.10	
Carpenter Work	@ 7.00 " "	9.30	
Hauling	@ 3.00 " "	4.20	
Iron	@ 2.00 " "	2.80	
Nails	@ .30 " "	.50	
Earth Work		25.00	
		$77.40	$31.00

2119 **Bridge.**

Sta. 3245–04. Width 18 ft. Length 78 ft. 30%

Lumber 10,317 ft.	@	$25.00	per M	$257.90
Carpenter Work	@	7.00	" "	72.10
Hauling	@	3.00	" "	90.90
Iron	@	2.00	" "	20.60
Nails	@	.30	" "	3.10
Earth Work				25.00
				$409.60

$122.90

Sidegate.

Sta. 3268–04. Width 66". Depth 74". Length 26 ft. 30%

Lumber 2,242 ft.	@	$25.00	per M	$56.50
Carpenter Work	@	7.00	" "	15.40
Hauling	@	3.00	" "	6.60
Iron	@	2.00	" "	4.40
Nails	@	.30	" "	.70
Earth Work				25.00
				$108.60

$32.50

Sidegate.

Sta. 3274–70. Width 66". Depth 7". Length 27 ft. 30%

Lumber 2,225 ft.	@	$25.00	per M	$55.60
Carpenter Work	@	7.00	" "	15.40
Hauling	@	3.00	" "	6.60
Iron	@	2.00	" "	4.40
Nails	@	.30	" "	.70
Earth Work				25.00
				$107.70

$21.50

2120 **Bridge.**

Sta. 3284–02. Width 16 ft. Length 62 ft. 80%

Lumber 8,264 ft.	@	$25.00	per M	$206.60
Carpenter Work	@	7.00	" "	57.40
Hauling	@	3.00	" "	24.60
Iron	@	2.00	" "	16.40
Nails	@	.30	" "	2.50
Earth Work				25.00
				$332.50

$266.00

Sidegate.

Sta. 3293–36. Width 46″. Depth 6 ft. Length 26 ft. 30%

Lumber 1,354 ft.	@	$25.00	per M	$33.90
Carpenter Work	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$75.00

$22.50

Weir & Bridge.

Sta. 3293–93. Width 28 ft. Depth 88″. Length 38 ft. 60%

Lumber 13,400 ft.	@	$25.00	per M	$335.00
Carpenter Work	@	7.00	" "	93.80
Hauling	@	3.00	" "	40.20
Iron	@	2.00	" "	26.80
Nails	@	.30	" "	4.00
Earth Work				25.00
				$619.80

$431.90

2121

Sidegate.

Sta. 3308–10. Width 42″. Depth 5 ft. Length 27 ft. 30%

Lumber 1,488 ft.	@	$25.00	per M	$37.20
Carpenter Work	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$80.70

$24.20

Sidegate.

Sta. 3322–23. Width 62″. Depth 80″. Length 26 ft. 30%

Lumber 2,042 ft.	@	$25.00	per M	$51.00
Carpenter Work	@	7.00	" "	14.70
Hauling	@	3.00	" "	6.30
Iron	@	2.00	" "	4.20
Nails	@	.30	" "	.60
Earth Work				25.00
				$101.80

$30.50

Sidegate.

Sta. 3347–64. Width 60″. Depth 78″. Length 20 ft. 20%

Lumber 1,957 ft.	@	$25.00	per M	$48.90
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$98.40

$19.70

2122

Sidegate.

Sta. 3353–55. Width 3 ft. Depth 54″. Length 20 ft. 30%

Lumber 1,031 ft.	@	$25.00	per M	$25.70
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$63.20

$19.00

Sidegate.

Sta. 3357–91. Width 66″. Depth 80″. Length 20 ft. 30%

Lumber 1,968 ft.	@	$25.00	per M	$49.20
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				25.00
				$98.80

$29.60

Measuring Gate.

Sta. 3369–48. Width 13 ft. Depth 66″. Length 9 ft. 20%

Lumber 1,818 ft.	@	$25.00	per M	$45.40
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$92.50

$18.50

2123 **Sidegate.**

Sta. 3369–53. Width 8 ft. Depth 12 ft. Length 18 ft. 20%

Lumber 3,947 ft.	@	$25.00	per	M	$98.70
Carpenter Work	@	7.00	"	"	22.30
Hauling	@	3.00	"	"	11.70
Iron	@	2.00	"	"	7.80
Nails	@	.30	"	"	1.20
Earth Work					25.00
					$171.70 $34.30

Bridge.

Sta. 3369–70. Width 20 ft. Length 60 ft. 50%

Lumber 8,249 ft.	@	$25.00	per	M	$206.20
Carpenter Work	@	7.00	"	"	57.40
Hauling	@	3.00	"	"	24.60
Iron	@	2.00	"	"	16.40
Nails	@	.30	"	"	2.50
Earth Work					25.00
					$332.10 $166.10

Sidegate.

Sta. 3376–80. Width 4 ft. Depth 5 ft. Length 19 ft. 40%

Lumber 1,352 ft.	@	$25.00	per	M	$33.80
Carpenter Work	@	7.00	"	"	9.10
Hauling	@	3.00	"	"	3.90
Iron	@	2.00	"	"	2.60
Nails	@	.30	"	"	.50
Earth Work					25.00
					$74.90 $30.00

2124 **Sidegate.**

Sta. 3384–04. Width 4 ft. Depth 44". Length 20 ft. 40%.

Lumber 1,126 ft.	@	$25.00	per	M	$48.10
Carpenter Work	@	7.00	"	"	7.70
Hauling	@	3.00	"	"	3.30
Iron	@	2.00	"	"	2.20
Nails	@	.30	"	"	.50
Earth Work					25.00
					$66.80 $26.70

Sidegate.

Sta. 3400–73. Width 66″. Depth 6 ft. Length 19 ft. 40%.

Lumber 1,991 ft.	@	$25.00	per M	$49.80
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				25.00
				$99.40

$39.80

Weir.

Sta. 3401–17. Width 22 ft. Depth 9 ft. 2″. Length 34 ft. 90%.

Lumber 14,000 ft.	@	$25.00	per M	$350.00
Carpenter Work	@	7.00	" "	98.00
Hauling	@	3.00	" "	42.00
Iron	@	2.00	" "	28.00
Nails	@	.30	" "	4.20
Earth Work				120.00
				$652.20

$578.00

2125 Measuring Gate.

Sta. 3426–06. Width 12½ ft. Depth 56″. Length 8 ft. 30%.

Lumber 1,424 ft.	@	$25.00	per M	$35.60
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$77.90

$23.40

Sidegate.

Sta. 3424–07. Width 4 ft. Depth 6 ft. Length 20 ft. 60%

Lumber 1,786 ft.	@	$25.00	per M	$44.60
Carpenter Work	@	7.00	" "	12.60
Hauling	@	3.00	" "	5.40
Iron	@	2.00	" "	3.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$91.70

$55.00

Sidegate.

Sta. 3430–39. Width 52". Depth 34". Length 20 ft. 40%

Lumber 975 ft.	@	$25.00	per M	$24.40
Carpenter Work	@	7.00	" "	7.00
Hauling	@	3.00	" "	3.00
Iron	@	2.00	" "	2.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$61.90 $24.80

2126

Sidegate.

Sta. 3443–83. Width 66". Depth 6 ft. Length 28 ft. 40%

Lumber 2,383 ft.	@	$25.00	per M	$59.60
Carpenter Work	@	7.00	" "	16.80
Hauling	@	3.00	" "	7.20
Iron	@	2.00	" "	4.80
Nails	@	.30	" "	.70
Earth Work				25.00
				$114.10 $45.60

Measuring Gate.

Sta. 3444–22. Width 12½ ft. Depth 66". Length 8 ft. 30%

Lumber 1,671 ft.	@	$25.00	per M	$41.40
Carpenter Work	@	7.00	" "	11.90
Hauling	@	3.00	" "	5.10
Iron	@	2.00	" "	3.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$87.70 $26.30

Sidegate.

Sta. 3457–01. Width 4 ft. Depth 58". Length 16 ft. 20%

Lumber 1,230 ft.	@	$25.00	per M	$30.70
Carpenter Work	@	7.00	" "	8.40
Hauling	@	3.00	" "	3.60
Iron	@	2.00	" "	2.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$70.60 $14.10

2127 Measuring Gate.

Sta. 3465–13. Width 13 ft. Depth 5 ft. Length 8 ft. 20%

Lumber 1,605 ft.	@	$25.00	per M	$40.10
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$84.80

$17.00

Sidegate.

Sta. 3465–13. Width 44". Depth 6 ft. Length 29 ft. 40%

Lumber 1,919 ft.	@	$25.00	per M	$48.00
Carpenter Work	@	7.00	" "	13.30
Hauling	@	3.00	" "	5.70
Iron	@	2.00	" "	3.80
Nails	@	.30	" "	.60
Earth Work				25.00
				$94.40

$38.60

Sidegate.

Sta. 3470–63. Width 3 ft. 8". Depth 34". Length 20 ft. 40%

Lumber 825 ft.	@	$25.00	per M	$20.60
Carpenter Work	@	7.00	" "	5.60
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$55.70

$23.30

2128 Sidegate.

Sta. 3480–63. Width 3 ft. Depth 56". Length 26 ft. 40%

Lumber 1,302 ft.	@	$25.00	per M	$32.50
Carpenter Work	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$73.60

$29.40

Bridge.

Sta. 3480–87. Width 16 ft. Length 20 ft. 70%

Lumber 6,561 ft...@	$25.00 per M	$164.00	
Carpenter Work ...@	7.00 " "	42.20	
Hauling .....@	3.00 " "	19.80	
Iron .....@	2.00 " "	13.20	
Nails .....@	.30 " "	2.00	
Earth Work.....		25.00	
		$270.20	$189.10

Sidegate.

Sta. 3491–86. Width 3 ft. Depth 66". Length 20 ft. 40%

Lumber 974 ft....@	$25.00 per M	$24.30	
Carpenter Work ...@	7.00 " "	7.00	
Hauling .....@	3.00 " "	3.00	
Iron .....@	2.00 " "	2.00	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$61.80	$24.70

2129 Sidegate.

Sta. 3490–26. Width 4 ft. Depth 54". Length 24 ft. 30%

Lumber 1,266 ft...@	$25.00 per M	$31.60	
Carpenter Work ...@	7.00 " "	9.10	
Hauling .....@	3.00 " "	3.90	
Iron .....@	2.00 " "	2.60	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$72.70	$21.80

Sidegate.

Sta. 3500–95. Width 3 ft. Depth 34". Length 20 ft. 40%

Lumber 1,374 ft...@	$25.00 per M	$34.40	
Carpenter Work ...@	7.00 " "	9.80	
Hauling .....@	3.00 " "	4.20	
Iron .....@	2.00 " "	2.80	
Nails .....@	.30 " "	.50	
Earth Work.....		25.00	
		$76.70	$30.70

Sidegate.

Sta. 3501–38. Width 4 ft. Depth 6 ft. Length 24 ft. 40%

Lumber 1,759 ft. . .	@	$25.00 per M	$44.00
Carpenter Work . . .	@	7.00 " "	11.90
Hauling	@	3.00 " "	5.10
Iron	@	2.00 " "	3.40
Nails	@	.30 " "	.50
Earth Work.			25.00
			$89.90

$36.00

2130 Sidegate.

Sta. 3509–31. Width 2 ft. Depth 54". Length 20 ft. 40%

Lumber 927 ft. . . .	@	$25.00 per M	$23.10
Carpenter Work . . .	@	7.00 " "	6.30
Hauling	@	3.00 " "	2.70
Iron	@	2.00 " "	1.80
Nails	@	.30 " "	.50
Earth Work.			25.00
			$59.40

$23.80

Sidegate.

Sta. 3511–71. Width 3 ft. Depth 52". Length 26 ft. 40%

Lumber 1,285 ft. . .	@	$25.00 per M	$32.10
Carpenter Work . . .	@	7.00 " "	9.10
Hauling	@	3.00 " "	3.90
Iron	@	2.00 " "	2.60
Nails	@	.30 " "	.50
Earth Work.			25.00
			$73.20

$39.30

Sidegate.

Sta. 3514–03. Obsolete. 100%

Sidegate.

Sta. 3531–69. Width 84". Depth 66". Length 20 ft. 40%

Lumber 2,027 ft. . .	@	$25.00 per M	$50.70
Carpenter Work . . .	@	7.00 " "	14.00
Hauling	@	3.00 " "	6.00
Iron	@	2.00 " "	4.00
Nails	@	.30 " "	.60
Earth Work.			25.00
			$100.30

$40.00

2131

Sidegate.

Sta. 3531–19. Width 22 ft. Depth 12 ft. Length 16 ft. 90%

Lumber 7,500 ft.	@	$25.00	per M	$187.50
Carpenter Work	@	7.00	" "	52.50
Hauling	@	3.00	" "	22.50
Iron	@	2.00	" "	15.00
Nails	@	.30	" "	2.20
Earth Work				25.00
				$304.70

$224.30

Weir.

Sta. 3547–95. Width 24 ft. Depth 12 ft. Length 32 ft. 80%

Lumber 15,000 ft.	@	$25.00	per M	$375.00
Carpenter Work	@	7.00	" "	105.00
Hauling	@	3.00	" "	45.00
Iron	@	2.00	" "	30.00
Nails	@	.30	" "	4.50
Earth Work				120.00
				$679.50

$543.60

Weir.

Sta. 3548–53. Width 24 ft. Depth 12 ft. Length 50 ft. 30%

Lumber 17,500 ft.	@	$25.00	per M	$437.50
Carpenter Work	@	7.00	" "	122.50
Hauling	@	3.00	" "	52.50
Iron	@	2.00	" "	35.00
Nails	@	.30	" "	5.20
Earth Work				120.00
				$772.70

$231.80

2132

Weir.

Sta. 3549–60 Width 24 ft. Depth 12 ft. Length 34 ft. 80%

Lumber 1,500 ft.	@	$25.00	per M	$375.00
Carpenter Work	@	7.00	" "	105.00
Hauling	@	3.00	" "	45.00
Iron	@	2.00	" "	30.00
Nails	@	.30	" "	4.50
Earth Work				120.00
				$679.50

$542.00

Sidegate.

Sta. 3570–31. Width 96″. Depth 5 ft. Length 25 ft. 20%

Lumber 1,914 ft.	@	$25.00	per M	$47.80
Carpenter Work	@	7.00	" "	13.30
Hauling	@	3.00	" "	5.70
Iron	@	2.00	" "	3.80
Nails	@	.30	" "	.60
Earth Work				25.00
				$96.20

$19.2

Weir.

Sta. 3570–93. Width 16 ft. Depth 78″. Length 40 ft. 20%

Lumber 12,724 ft.	@	$25.00	per M	$318.10
Carpenter Work	@	7.00	" "	88.90
Hauling	@	3.00	" "	38.10
Iron	@	2.00	" "	25.40
Nails	@	.30	" "	3.80
Earth Work				120.00
				$594.30

$118.9

2133 Bridge.

Sta. 3581–35. Width 16 ft. Length 60 ft. 40%

Lumber 6,561 ft.	@	$25.00	per M	$164.00
Carpenter Work	@	7.00	" "	46.20
Hauling	@	3.00	" "	19.80
Iron	@	2.00	" "	13.20
Nails	@	.30	" "	2.00
Earth Work				25.00
				$217.20

$108.1

Sidegate.

Sta. 3583–30. Width 4 ft. Depth 6 ft. Length 20 ft. 40%

Lumber 1,373 ft.	@	$25.00	per M	$34.30
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$76.50

$30.6

Sidegate.

Sta. 3590–97. Width 3 ft. Depth 56". Length 20 ft. 60%

Lumber 820 ft.	@	$25.00	per M	$20.50
Carpenter Work	@	7.00	" "	5.60
Hauling	@	3.00	" "	2.40
Iron	@	2.00	" "	1.60
Earth Work				25.00
				$55.60 $33.40

2134

Sidegate.

Sta. 3593–98. Width 6 ft. Depth 4 ft. Length 15 ft. 80%

Lumber 1,089	@	$25.00	per M	$27.20
Carpenter Work	@	7.00	" "	7.70
Hauling	@	3.00	" "	3.30
Iron	@	2.00	" "	2.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$65.90 $52.70

Sidegate.

Sta. 3594–22. Width 6 ft. Depth 5 ft. Length 20 ft. 30%

Lumber 1,532 ft.	@	$25.00	per M	$39.50
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$84.20 $25.20

Sidegate.

Sta. 3596–59. Width 66". Depth 66". Length 27 ft. 40%

Lumber 2,013 ft.	@	$25.00	per M	$50.30
Carpenter Work	@	7.00	" "	14.00
Hauling	@	3.00	" "	6.00
Iron	@	2.00	" "	4.00
Nails	@	.30	" "	.60
Earth Work				25.00
				$99.90 $40.00

2135 Sidegate.

Sta. 3604–33. Width 3 ft. Depth 66″. Length 20 ft. 40%

Lumber 1,124 ft.	@	$25.00	per	M	$28.10
Carpenter Work	@	7.00	"	"	7.70
Hauling	@	3.00	"	"	3.30
Iron	@	2.00	"	"	2.20
Nails	@	.30	"	"	.50
Earth Work					25.00
					$66.80

$26.70

Sidegate.

Sta. 3615–71. Width 4 ft. Depth 76″. Length 24 ft. 40%

Lumber 1,724 ft.	@	$25.00	per	M	$43.10
Carpenter Work	@	7.00	"	"	11.90
Hauling	@	3.00	"	"	5.10
Iron	@	2.00	"	"	3.40
Nails	@	.30	"	"	.50
Earth Work					25.00
					$89.00

$36.50

Measuring Gate.

Sta. 3615–96. Width 12½ ft. Depth 5 ft. Length 9 ft. 20%

Lumber 1,762 ft.	@	$25.00	per	M	$44.10
Carpenter Work	@	7.00	"	"	12.60
Hauling	@	3.00	"	"	5.40
Iron	@	2.00	"	"	3.60
Nails	@	.30	"	"	.50
Earth Work					25.00
					$91.20

$27.40

2136 Bridge.

Sta. 3624–02. Width 18 ft. Length 56 ft. 60%

Lumber 7,044 ft.	@	$25.00	per	M	$176.10
Carpenter Work	@	7.00	"	"	49.00
Hauling	@	3.00	"	"	21.00
Iron	@	2.00	"	"	14.00
Nails	@	.30	"	"	2.10
Earth Work					25.00
					$287.20

$172.30

Sidegate.

Sta. 3636–36. Width 4 ft. Depth 74". Length 25 ft. 40%

Lumber 1,622 ft.	@	$25.00	per M	$40.50
Carpenter Work.	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$85.20 $34.10

Sidegate.

Sta. 3640–68. Width 34". Depth 58". Length 27 ft. 70%

Lumber 1,337 ft.	@	$25.00	per M	$33.40
Carpenter Work.	@	7.00	" "	9.10
Hauling	@	3.00	" "	3.90
Iron	@	2.00	" "	2.60
Nails	@	.30	" "	.50
Earth Work				25.00
				$74.50 $52.10

2137 Bridge.

Sta. 3644–53. Width 20 ft. Length 60 ft. 50%

Lumber 8,249 ft.	@	$25.00	per M	$206.20
Carpenter Work.	@	7.00	" "	58.10
Hauling	@	3.00	" "	24.90
Iron	@	2.00	" "	16.60
Nails	@	.30	" "	2.50
Earth Work				25.00
				$333.30 $166.60

Measuring Gate.

Sta. 3652–83. Width 12½ ft. Depth 5 ft. Length 8 ft. 20%

Lumber 1,521 ft.	@	$25.00	per M	$38.00
Carpenter Work.	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$81.50 $16.30

Sidegate.

Sta. 3652–91. Width 4 ft. Depth 78″. Length 24 ft. 40%

Lumber 1,411 ft.	@	$25.00	per M	$35.30
Carpenter Work	@	7.00	" "	9.80
Hauling	@	3.00	" "	4.20
Iron	@	2.00	" "	2.80
Nails	@	.30	" "	.50
Earth Work				25.00
				$77.60

$31.00

2138 Sidegate.

Sta. 3,654–42. Width 2 ft. Depth 3 ft. Length 21 ft. 50%

Lumber 643 ft.	@	$25.00	per M	$16.10
Carpenter Work	@	7.00	" "	4.90
Hauling	@	3.00	" "	2.10
Iron	@	2.00	" "	1.40
Nails	@	.30	" "	.50
Earth Work				25.00
				$50.00

$25.00

Sidegate.

Sta. 3668–71. Width 60″. Depth 62″. Length 31 ft. 70%

Lumber 1,613 ft.	@	$25.00	per M	$40.30
Carpenter Work	@	7.00	" "	11.20
Hauling	@	3.00	" "	4.80
Iron	@	2.00	" "	3.20
Nails	@	.30	" "	.50
Earth Work				25.00
				$85.00

$59.50

Sidegate.

Sta. 3680–79. Width 4 ft. Depth 80″. Length 28 ft. 40%

Lumber 1,479 ft.	@	$25.00	per M	$37.00
Carpenter Work	@	7.00	" "	10.50
Hauling	@	3.00	" "	4.50
Iron	@	2.00	" "	3.00
Nails	@	.30	" "	.50
Earth Work				25.00
				$80.50

$32.20

2139 Sidegate.

Sta. 3687–21. Width 28″. Depth 66″. Length 26 ft. 40%

Lumber 1,567 ft....@	$25.00 per M	$39.20	
Carpenter Work....@	7.00 " "	11.20	
Hauling .....@	3.00 " "	4.80	
Iron .....@	2.00 " "	3.20	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$83.90	$33.60

Weir.

Sta. 3687–61. Width 25 ft. Depth 8 ft. Length 34 ft. 80%

Lumber 12,914 ft..@	$25.00 per M	$322.80	
Carpenter Work....@	7.00 " "	90.30	
Hauling .....@	3.00 " "	38.70	
Iron .....@	2.00 " "	25.80	
Nails .....@	.30 " "	3.90	
Earth Work		120.00	
		$601.50	$418.20

Sidegate.

Sta. 3701–29. Width 5 ft. Depth 6 ft. Length 25 ft. 40%

Lumber 1,569 ft....@	$25.00 per M	$39.20	
Carpenter Work....@	7.00 " "	11.20	
Hauling .....@	3.00 " "	4.80	
Iron .....@	2.00 " "	3.20	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$83.90	$33.60

2140 Sidegate.

Sta. 3718–65. Width 4 ft. Depth 6 ft. Length 24 ft. 40%

Lumber 1,448 ft....@	$25.00 per M	$36.20	
Carpenter Work ...@	7.00 " "	9.80	
Hauling .....@	3.00 " "	4.20	
Iron .....@	2.00 " "	2.80	
Nails .....@	.30 " "	.50	
Earth Work		25.00	
		$78.50	$31.40

Sidegate.

Sta. 3734–85. Width 4 ft. Depth 3 ft. Length 24 ft. 40%

Lumber 882 ft.	@	$25.00	per	M	$22.00
Carpenter Work	@	7.00	"	"	6.30
Hauling	@	3.00	"	"	2.70
Iron	@	2.00	"	"	1.80
Nails	@	.30	"	"	.50
Earth Work					25.00
					$58.30

$22.30

Sidegate.

Sta. 3745–87. Width 3 ft. Depth 44". Length 23 ft. 40%

Lumber 837 ft.	@	$25.00	per	M	$20.90
Carpenter Work	@	7.00	"	"	5.60
Hauling	@	3.00	"	"	2.40
Iron	@	2.00	"	"	1.60
Nails	@	.30	"	"	.50
Earth Work					25.00
					$56.00

$22.40

2141

Sidegate.

Sta. 3746–16. Width 60". Depth 4 ft. Length 20 ft. 40%

Lumber 1,087 ft.	@	$25.00	per	M	$27.20
Carpenter Work	@	7.00	"	"	7.70
Hauling	@	3.00	"	"	3.30
Iron	@	2.00	"	"	2.20
Nails	@	.50	"	"	.50
Earth Work					25.00
					$65.90

$26.40

Gate.

Sta. 3,746–31. Width 70". Depth 4 ft. Length 20 ft. 40%

Lumber 1,376 ft.	@	$25.00	per	M	$34.40
Carpenter Work	@	7.00	"	"	9.80
Hauling	@	3.00	"	"	4.20
Iron	@	2.00	"	"	2.80
Nails	@	.30	"	"	.50
Earth Work					25.00
					$76.70

$30.70

42 Stanislaus County.

tal Cost of Structures	$11,915.80
tal Depreciation	6,216.00
Present Value	$5,699.80

March 3rd, 1909.

H. H. HENDERSON,
Hydraulic Engineer.

43 In the Circuit Court of the United States for the Northern District of California.

No. 14554.

E SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (Corporation), Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Petition for Appeal.

the Honorable the Circuit Court of the United States for the Ninth Circuit, Northern District of California:

The complainant in the above entitled cause, The San Joaquin & ngs River Canal & Irrigation Company Incorporated (a corporan), conceiving itself aggrieved by the final decree pronounced in d cause, in and by which said decree it was ordered, adjudged and ereed that said complainant's bill of complaint be dismissed and at defendants recover from complainant their costs, desires to apal to the Supreme Court of the United States from said decree, and spectfully petitions this court for an order allowing the said comainant to prosecute such appeal to the Supreme Court of the United ates; and that the said Court also make an order fixing the amount security which said complainant shall furnish upon said appeal, d that a certified transcript of the record and proceedings herein be forthwith transmitted, duly authenticated, to the Supreme
44 Court of the United States.

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

(Endorsed:) Filed Dec. 30, 1911. Southard Hoffman, Clerk, By . B. Maling, Deputy Clerk.

2145 In the Circuit Court of the United States for the Northern District of California.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, Incorporated (a Corporation), Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Assignment of Errors.

Comes now the complainant in the above entitled cause and files the following assignment of errors upon which it will rely upon its appeal from the final decree herein dismissing said suit.

The Court erred:

I.

In dismissing said suit and entering a final decree therein in favor of said defendants and against complainant for their costs.

II.

In not making and entering a decree in favor of said complainant and against said defendants adjudging and decreeing that the orders of the Boards of Supervisors of Stanislaus, Merced and Fresno Counties deprive, and that each of them deprive, the complainant of its property without due process of law and without just compensation, and perpetually enjoining and restraining the defendants from publishing, enforcing or attempting to enforce said orders or either of them.

2146 III.

In holding and deciding that complainant's income under said orders of said Boards of Supervisors is in excess of six per cent. on the value of complainant's property used and useful in supplying the inhabitants of the Counties of Stanislaus, Merced and Fresno with water.

IV.

In overruling complainant's exceptions to the report of the master made and filed therein.

V.

In finding that the cost of reproduction of the earthwork excavation in the canals of the complainant is the sum of Four hundred and twenty-nine thousand four hundred and ninety-five dollars and twenty-eight cents ($429,495.28), for the reason that said finding is unsupported by the evidence, and the evidence shows that the cost of reproducing the same is the sum of Five hundred and seventy-five thousand, seven hundred and thirty dollars and ninety-five cents ($575,730.95).

VI.

In finding that the present value of the earthwork excavation in the said canals is the sum of Four hundred and twenty-nine thousand four hundred and ninety-five dollars and twenty-eight cents ($429,495.28), for the reason that said finding is unsupported by the evidence, and the evidence shows that the present value of the said earthwork excavation is the sum of Seven hundred and five thousand and ninety-five dollars and ninety-five cents ($705,095.95), and also for the reason that the court erred in not finding that the said earthwork excavation had appreciated in value in the sum of One hundred and twenty-nine thousand three hundred and sixty-five dollars ($129,365.00).

2147

VII.

In finding that the evidence is insufficient to show that the value of the said earthwork excavation has appreciated in the sum of One hundred and twenty-nine thousand three hundred and sixty-five dollars ($129,365.00), for the reason that the said appreciation is shown by uncontradicted evidence and admitted by the witnesses of defendants.

VIII.

In finding that the cost of reproduction of the structures on the canals of complainant is the sum of Three hundred and fifteen thousand five hundred and fifteen dollars and fourteen cents ($315,515.14), for the reason that the same is unsupported by the evidence, and the evidence shows that the cost of reproduction of said structures is the sum of Four hundred and twenty thousand six hundred and eighty-six dollars and eighty-six cents ($420,686.86).

IX.

In finding that the amount of interest lost by complainant on its money invested during construction is the sum of Sixty-five thousand five hundred and fifty-three dollars and three cents ($65,553.03), for the reason that the same is not supported by the evidence, and the evidence shows that the interest so lost is the sum of Eighty-three thousand and seventy-nine dollars and sixty-four cents ($83,079.64).

X.

In finding that complainant's properties are not enhanced in value to the extent of Forty-two thousand four hundred and seventy-one dollars ($42,471.00), the value of the fences along the right of way of said company, for the reason that said finding is not supported by the evidence, and the evidence shows that the said properties
2148 of complainant are enhanced in value in the said sum, by reason of the existence of said fences, and by reason of the said complainant owning said right of way freed of any liability or duty to erect fences along the same.

XI.

In finding that complainant is not entitled to a reasonable return upon the value of the water right owned by complainant, and found to be of the value of approximately One Million Dollars ($1,000,000.00), for the following reasons:

(*a*) Because the evidence shows that the said water right is of the value of more than Seven hundred and sixty thousand dollars ($760,000.00) to-wit: One Million Dollars ($1,000,000.00).

(*b*) Because the evidence shows that the complainant is the owner of said water right of the value aforesaid, and is entitled to a return thereon.

(*c*) Because the court erred in finding that because complainant had devoted the said water right to the public use, it is not entitled to any return thereon.

XII.

In finding that Miller & Lux never granted the said complainant any water right, for the reason that the same is not supported by the evidence, and for the reason that the evidence shows that the said water right was acquired with the expressed consent of Miller & Lux, a large riparian owner on said river, and that the same could not have been acquired without such consent, and that in consideration of the said consent, the said complainant and its predecessors granted said Miller & Lux certain valuable rights.

XIII.

In finding that the predecessors in interest of complainant did not pay John Bensley the sum of One hundred and twelve thousand five hundred dollars ($112,500.00), for water rights and rights
2149 of way which he had acquired, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the said complainant did pay the said John Bensley One hundred and twelve thousand five hundred dollars ($112,500.00) for such rights.

XIV.

In finding that the said complainant did not pay to the said Miller & Lux a sum equivalent to One hundred and seventy-four thousand nine hundred and twenty-nine dollars and sixty-seven cents ($174,929.67) by way of reduced rates for water in consideration of the right of way and water right granted by that company to the predecessors in interest of complainant, for the reason that the evidence is insufficient to justify such finding, and the evidence shows that the complainant and its predecessors have paid to the said Miller & Lux a sum equivalent to One hundred and seventy-four thousand nine hundred and twenty-nine dollars and sixty-seven cents ($174,929.67) in consideration of the rights so granted.

XV.

In finding that the complainant and its predecessors have not paid to the said Miller & Lux a sum equivalent to Ten Thousand dollars

($10,000) a year, being the value of the waste water delivered to the said Miller & Lux under the terms of the contracts between the said Miller & Lux and the predecessors in interest of complainant, which sum if capitalized at six per cent. would amount to the sum of One hundred and sixty-six thousand six hundred and sixty-six dollars ($166,666.00), for the reason that the evidence is insufficient to support the said finding, and the evidence shows that complainant and its predecessors have paid to the said Miller & Lux the sum aforesaid.

2150

XVI.

In finding that the complainant and its predecessors in interest have not paid the sum of Four hundred and fifty-three thousand and ninety-five dollars and sixty-cents ($453,095.60) for a part of the water rights and rights of way obtained and owned by complainant, for the reason that the evidence is insufficient to justify such finding, and the evidence shows that the complainant has paid the sum aforesaid.

XVII.

In refusing to allow complainant any return upon the value of its water right for the reason that the said Court has charged complainant with all of the sums paid by it in consideration of the said water right, and has allowed said complainant nothing for the water right acquired in exchange therefor.

XVIII.

In finding that it does not appear in the testimony what rights to water Miller & Lux owned at the time of the commencement of this enterprise, for the reason that the evidence shows that they were riparian owners upon the river, and as such riparian owners entitled to the unobstructed flow of all the waters of said river.

XIX.

In finding that the complainant's predecessor acquired its water rights by appropriation, for the reason that the evidence shows that the said right could be acquired only by prescription, or by grant from said riparian owners.

XX.

In finding that the complainant should have received from Miller & Lux the sum of Fourteen thousand five hundred and thirteen dollars and fifty-three cents ($14,513.53), for the carriage of certain water for Miller & Lux, for the reason that the evidence is
2151 insufficient to justify said finding, and the evidence shows that the complainant did not own said water, and that the reasonable carriage charge therefor was the sum of One thousand one hundred and sixty-three dollars and ninety-seven cents ($1,163.97).

XXI.

In finding that the said complainant should have received and should be charged with the sum of Ten thousand dollars ($10,000.00) per annum, being the value of the waste waters delivered to Miller & Lux, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the complainant never did receive and was never entitled to receive the said sum.

XXII.

In finding that Miller & Lux were not entitled, under the terms of its contracts with complainants, to the said waste water, for the reason that said finding is not supported by the evidence, and the evidence shows that the said Miller & Lux is entitled thereto.

XXIII.

In finding that the purchasing of water by Miller & Lux for the irrigation of uncultivated land was inconsistent with its claim to the waters wasted by complainant, for the reason that the evidence is insufficient to justify the said finding.

XXIV.

In finding that the said complainant could have diverted three hundred and fifty (350) cubic feet of water into its Outside canal without the consent of Miller & Lux, for the reason that the evidence is insufficient to support said finding, and the evidence shows that the said complainant could not divert any water from said river without the consent of Miller & Lux.

2152 XXV.

In finding that Miller & Lux by purchasing said water for the irrigation of uncultivated lands, waived or abandoned any claim it had to the waste waters from said canal.

XXVI.

In finding that more water was wasted from said canal than was necessary, and in finding that water was turned into the swamps other than water necessarily wasted, for the reason that the evidence is not sufficient to support said finding, and the evidence shows that there was no more waste than necessary.

XXVII.

In finding that complainant could have irrigated the fourteen thousand one hundred and eleven and sixty-five one-hundredths (14,111.65) acres of land irrigated with the water carried for Miller & Lux with the seven hundred and sixty (760) feet of water owned by complainant, for the reason that the evidence is insufficient to justify said finding.

XXVIII.

In finding that complainant will receive 7.704 per cent. income on the present value of its properties, for the reason that the said finding is not supported by the evidence, and the evidence shows that complainant will not receive even two (2) per cent. on the value of its properties.

XXIX.

In finding that the net income which will be received by the complainant under said rates will be a just and reasonable compensation to the complainant for the furnishing of said water, for the reason that the evidence shows that the complainant will receive no just nor reasonable compensation from the said rates.

XXX.

In finding that there is no evidence sufficient to deter-
2153 mine the value of the franchise of complainant for the reason that the same is unsupported by the evidence, and the evidence shows that complainant's franchise is of the value of at least Seven hundred and sixty thousand dollars ($760,000.00).

XXXI.

In finding that the total value of complainant's property is the sum of Eight hundred and ninety-six thousand eight hundred and twenty-nine dollars and fifty-five cents ($896,829.55), for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the value of complainant's property exceeds the sum of Two Million Dollars ($2,000,000.00).

XXXII.

In finding that the total receipts of the said complainant under the rates fixed by said ordinances is the sum of One hundred and thirty-six thousand, six hundred and ninety-seven dollars and thirty-five cents ($136,697.35), for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the total receipts of complainant amount to the sum of One hundred and thirteen thousand three hundred and forty-seven dollars and seventy-nine cents ($113,347.79).

XXXIII.

In finding that the total expense of maintenance of said complainant is the sum of Sixty-seven thousand one hundred and fourteen dollars and eighty-four cents ($67,114.84), for the reason that the same is unsupported by the evidence, and the evidence shows that the said expense of maintenance of complainant is the sum of Ninety-four thousand three hundred and twenty-three dollars and thirty-eight cents $94,332.38) per annum.

2154 Wherefore complainant prays that the said decree be reversed.

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

(Endorsed:) Filed Dec. 30, 1911, Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

2155 At a stated term, to-wit: July term 1911, of the Circuit Court of the United States, Ninth Circuit, Northern District of California, held at the courtroom in the City and County of San Francisco, on the 30th day of December, 1911;
Present, Hon. W. W. Morrow, Circuit Judge.

In the Circuit Court of the United States for the Northern District of California.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (a Corporation), Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Order Allowing Appeal.

On reading and filing the petition of The San Joaquin & Kings River Canal & Irrigation Company Incorporated (a corporation), Complainant herein, for an order allowing an appeal to the Supreme Court of the United States from the final decree herein, and the filing herein of the assignment of errors relied upon, and an undertaking on appeal, duly approved by the court, it is Ordered that an appeal to the Supreme Court of the United States from the final decree hereinabove referred to be, and the same is hereby allowed, and that a transcript of the record be forthwith transmitted to the Supreme Court of the United States.
Done in open court this 30 day of December, 1911.

WM. W. MORROW,
Circuit Judge.

(Endorsed:) Filed Dec. 30, 1911. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

2156 In the Circuit Court of the United States for the Northern District of California.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (a Corporation), Complainant,

vs.

COUNTY OF STANISLAUS et al., Defendants.

Bond on Appeal.

Know all men by these presents: That we, The San Joaquin & Kings River Canal & Irrigation Company Incorporated (a corporation), as principal, and C. Z. Merritt and E. G. Rodolph, as sureties, are held and firmly bound unto the County of Stanislaus, in the State of California, The Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the members of and constituting said Board of Supervisors of said County of Stanislaus; the County of Merced, in the State of California, the Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George Whitworth, and James W. Haley, the members of and constituting said Board of Supervisors of said County of Merced; and the County of Fresno, in the State of California, the Board of Supervisors of said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris Jorgensen, the members of and constituting said Board of Supervisors of said County of Fresno, Defendants, in the sum of One Thousand ($1000.) Dollars, to be paid to said defendants, their successors and assigns, to which payment, well and truly
2157 to be made, we bind ourselves, our heirs, executors and administrators, jointly and severally, firmly by these presents.

Sealed with our seals and dated this 30th day of December, 1911.

Whereas The San Joaquin & Kings River Canal & Irrigation Company Incorporated (a corporation) is about to petition the Circuit Court of the United States, Ninth Circuit, Northern District of California, to grant an appeal from a certain final decree entered by said court in an action therein pending entitled The San Joaquin & Kings River Canal & Irrigation Company Incorporated (a corporation), Complainant, vs. The County of Stanislaus, et al., Defendants, and numbered 14554;

Now, the condition of the above obligation is such that if the said The San Joaquin & Kings River Canal & Irrigation Company Incorporated shall prosecute the said appeal to effect, and if it fails to make its plea good shall answer all costs which may be awarded

against it, then the obligation to be void, otherwise it shall remain in full force and effect.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED,
By J. LEROY NICKEL, *Vice-President.*
[SEAL.] By C. Z. MERRITT, *Secretary.*
C. Z. MERRITT, [SEAL.]
E. G. RODOLPH. [SEAL.]

2158 UNITED STATES OF AMERICA,
State of California,
City and County of San Francisco, ss:

C. Z. Merritt and E. G. Rodolph, being severally duly sworn, each for himself deposes and says: that he is a resident and householder within the Northern District of California, and is worth the sum specified in the foregoing bond over and above all his just debts and liabilities, exclusive of property exempt from execution.

C. Z. MERRITT.
E. G. RODOLPH.

Subscribed and sworn to before me this 30th day of December, 1911.

[SEAL.] M. V. COLLINS,
Notary Public in and for the City and County of San Francisco, State of California.

The foregoing bond is hereby approved this 30" day of December, 1911.

WM. W. MORROW,
Circuit Judge.

(Endorsed:) Filed Dec. 30, 1911. Southard Hoffman, Clerk. By W. B. Maling, Deputy Clerk.

2159 In the District Court of the United States in and for the Northern District of California, Second Division.

No. 14554.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (a Corporation), Complainant,
vs.
THE COUNTY OF STANISLAUS et al., Defendants.

Clerk's Certificate to Record on Appeal.

I, Jas. P. Brown, Clerk of the District Court of the United States of America, in and for the Northern District of California, do hereby

certify the foregoing twenty-one hundred and fifty-eight pages, numbered from 1 to 2158, inclusive; to be a full, true and correct copy of the record and proceedings in the above-entitled cause, in accordance with the stipulation of the parties, dated February 6th, 1912, and that the same constitute the record on appeal to the Supreme Court of the United States.

I further certify that the cost of the foregoing transcript of record on appeal is $1347.60, that said amount was paid by the complainant, and that the original citation issued in said cause is hereto annexed.

In testimony Whereof, I have hereunto set my hand and affixed the Seal of said District Court, this 3d day of July A. D. 1912.

[Seal of the U. S. District Court, Northern Dist. of California.]

JAS. P. BROWN,
Clerk of United States District Court,
Northern District of California,
By W. B. MALING,
Deputy Clerk.

2160 UNITED STATES OF AMERICA, *ss:*

To the County of Stanislaus, in the State of California; The Board of Supervisors of said County of Stanislaus, Abram E. Clary, Moses A. Lewis, James W. Davison, John J. McMahon, and John Dunn, the Members of and Constituting said Board of Supervisors of said County of Stanislaus; the County of Merced, in the State of California, the Board of Supervisors of said County of Merced, James R. Baxter, Henry Nelson, Charles H. Deane, George H. Whitworth, and James W. Haley, the Members of and Constituting said Board of Supervisors of said County of Merced; and The County of Fresno, in the State of California, The Board of Supervisors of said County of Fresno, and George W. Beall, Thomas Martin, James B. Johnson, William D. Mitchell, and Chris Jorgensen, the Members of and Constituting said Board of Supervisors of said County of Fresno, Greeting:

You are hereby cited and admonished to be and appear at the Supreme Court of the United States, to be held at the City of Washington, in the District of Columbia, on the 29th day of February A. D. 1912 pursuant to an Order Allowing Appeal, wherein The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, a corporation, is Appellant and you are Appellees, to show cause, if any there be, why the Final Decree in the said Order Allowing Appeal mentioned, should not be corrected, and speedy justice should not be done to the parties in that behalf.

Witness the Honorable William W. Morrow, United States Circuit Judge, Ninth Judicial Circuit, this 30th day of December, A. D. 1911, and of the Independence of the United States, the one hundred and thirty-six.

WM. W. MORROW,
United States Circuit Judge.

2161 Service of within Citation, by copy, admitted this 10th day of January A. D. 1912.

L. J. MADDUX,
H. S. SHAFFER,
DENVER S. CHURCH,
M. F. McCORMICK,
J. P. LANGHORNE,
Solicitors for Defendants.

[Endorsed:] 14551. In the Supreme Court of the United States. The San Joaquin & Kings River Canal & Irrigation Company Incorporated (a corporation), Complainant, vs. County of Stanislaus, et al., Defendants. Citation. Filed Jan. 22, 1912. Jas. P. Brown, Clerk, By J. A. Schaertzer, Deputy Clerk.

2162 In the Supreme Court of the United States.

No. —.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (a Corporation), Appellant,

vs.

COUNTY OF STANISLAUS et al., Appellees.

Stipulation as to Record on Appeal.

It is hereby stipulated and agreed by and between the appellant and appellees in the above entitled suit that the transcript of record on appeal in said suit shall consist of the portions of the record hereinafter designated, and that the clerk of the lower court shall transmit to the Supreme Court of the United States as and for the record on appeal in said suit the following:

1. Pleadings in said suit.

2. Evidence for complainant

(Excepting, however, complainant's Exhibit 19, being a contract between Miller & Lux, et al. and John S. Eastwood, et al., and complainant's exhibit 22, being a supplemental contract entered into between Miller & Lux, et al., and John S. Eastwood, et al. The said agreement and supplemental agreement were made between Miller & Lux and other riparian owners on the San Joaquin river with John S. Eastwood and others prescribing the terms upon which Eastwood and others might reservoir water of the San Joaquin river

2163 in the Sierra Nevada Mountains for the purpose of producing power and providing for the reservoiring of said water during high stages of said river and releasing of said water during the low stages thereof.

Also excepting complainant's Exhibit 5, being price list of lumber.)

3. Evidence for defendants.

(Excepting, however, defendants' Exhibit "J", being map of irrigated lands; also the following parts of defendants' Exhibit "N",

viz: Commencing with the words "Lumber bill, stop gates" in the report of Charles E. Sloan and Burton Smith, up to the word "Recapitulation" in said report; also the table headed "Prices" being the last page of said report.)

4. Report of master.
5. Complainant's exceptions to master's report.
6. Opinion of the court.
7. Order confirming master's report and decree.
8. Petition for appeal.
9. Assignment of errors.
10. Order allowing appeal.
11. Bond on appeal.
12. Citation on appeal.

Dated: February 6th 1912.

J. P. LANGHORNE,
L. J. MADDUX,
DENVER S. CHURCH,
M. F. McCORMICK,
H. S. SHAFFER,
Solicitors for Appellees.
GARRET M. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Complainant.

2164 [Endorsed:] No. —. In the Supreme Court of the United States. The San Joaquin & Kings River Canal & Irrigation Company Incorporated (a corporation) Appellant, vs. County of Stanislaus, et al., Appellees. Stipulation as to Record on Appeal. Edward F. Treadwell Attorney-at-Law. 1302 Merchants Exchange Building, San Francisco, California.

Endorsed on cover: File No. 23,297. N. California C. C. U. S. Term No. 722. The San Joaquin and Kings River Canal and Irrigation Company, Incorporated, appellant, vs. The County of Stanislaus, in the State of California, et al. Filed July 15th, 1912. File No. 23,297.

2

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1913.

No. 992

Supreme Court, U. S.
FILED.
OCT 1 1913
JAMES H. McKENNEY,
Clerk.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY INCORPORATED (a corporation),

Appellant,

vs.

THE COUNTY OF STANISLAUS, in the State of California, et al.,

Appellees.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF CALIFORNIA.

BRIEF FOR APPELLANT

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Appellant.

ALDIS B. BROWNE,
ALEXANDER BRITTON,
Of Counsel.

(22,297)

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Receipts	136,697.35	136,697.35
Return at 6%	53,809.77	124,204.37
Maintenance	65,657.96	86,890.40
Depreciation	12,748.08	12,748.08
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Paid to Miller & Lux	188,263.00
Loss of surplus water charged to company	166,666.00
	$467,429.00

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1913.

No. 303.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY INCORPORATED,

Appellant,

vs.

THE COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA, ET AL.,

Appellees.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF CALIFORNIA.

BRIEF FOR APPELLANT.

HISTORY OF CASE.

This case is connected with a case bearing the same title which was before this court and the decision in which is reported in 192 U. S. 201, 24 Sup. Ct. Rep. 241, 48 L. Ed. 406, and it will be proper to state the general features of that case preliminarily to a consideration of the case at bar. The former case was a suit to have declared invalid an ordinance of the Board of Supervisors of the County of Stanislaus, State of

California, establishing rates at which complainant might sell water to the inhabitants of that county. Among other things it was contended by complainant in that case that it was operating in three counties, namely, Stanislaus, Merced and Fresno, and that if the other two counties should establish rates on the same proportionate basis as those established by Stanislaus county, having due regard to the distance the water was carried, complainant would not receive a just or any income. But this court held that the other two counties had not in fact established any rates and until they did so the rates established in Stanislaus county ($1.50 per acre) must be judged on the theory that the same rate was collected in all three counties, and the court said:

> "Hereafter, in case the other counties should fix rates in such manner that, taken as a whole, the rates in the three counties would not insure an income of at least 6 per cent., as provided for in the act of 1885, the company would, of course, not be bound to accept such rates and a decree in this case would not bind it in regard to the propriety of rates for the future as fixed by the ordinance of 1896 for the county of Stanislaus."

The other two counties were not slow to take advantage of the suggestion. This decision was rendered in 1903 and in 1904 the County of Merced established the rate of $1.08 per acre (Rec. p. 6), and in the same year the County of Fresno fixed the rate at 62½ cents per acre (Rec. p. 6). In 1907 the County of Stanislaus re-established the rate at $1.50 per acre (p. 8), the County of Merced fixed the rate at $1.65 per acre (p. 9), and the County of Fresno at 85 cents per acre (p. 10). It should be observed that the complainant's canal takes out in Fresno county and runs first through that county, then through Merced county and then

into Stanislaus county. In carrying water to Fresno county 12% is lost by seepage and evaporation, to Merced 33% and to Stanislaus 53% (Trans. pp. 4, 548). For this and other reasons which are apparent the rates in the lower counties should be higher than in the upper counties, the carriage of water being analogous to the carriage of freight and passengers (163 Fed. 567).

The present suit involves the validity of the rates for the year 1907, which were established by the Board of Supervisors as follows:

County	*Value of Property*	*Operating Expenses*	*Rate*
Fresno	$ 116,250.00	$21,750.00	$.85 per acre
Merced	750,000.00	37,000.00	1.65 per acre
Stanislaus	335,456.32	35,000.00	1.50 per acre
	$1,201,706.32	$93,750.00	

It should be noted that the rate fixed by Stanislaus county is less than that fixed by Merced county, although the water must be carried through Merced county to reach Stanislaus county. Each one of the ordinances assumed to fix the value of the property of the company "used by complainant for, and useful to, the furnishing of water to the inhabitants of said county," and the act under which the boards acted contemplated that each county should fix the value of such property and the rate (Stats. of Cal. 1885, p. 95) and we construe this to mean, in a case where the plant is in several counties, each board should determine what proportion of the plant is useful to it. Fresno county obviously worked on that theory, but whether the other boards did or not can only be determined from the language above quoted. Stanislaus county's valuation is much lower than that of Merced, although

that county is lower on the canal. It either, therefore, was fixing the value of *its proportion* of the entire system or made a valuation much lower than Merced county. On the other hand, if these valuations were intended as the value of the proportion of the property useful to each county, then the aggregate value would be about the value of the tangible property claimed by complainant and much greater than the value claimed by defendants on the trial. The same is true of the operating expenses. Another thing to be noticed about these ordinances is that in 1896 the County of Stanislaus fixed the value at $337,000 and in 1907 at $335,456.32, or somewhat less, although, as we shall show, it was generally admitted that the cost of reconstruction in 1907 was approximately double the cost in 1896 owing to the increased cost of labor and materials. We have called the attention of the court to these matters, which are important in determining what presumption is to attach to the ordinances, but doubtless the controlling question before this court is the adequacy of the return on the real value of the property, and not on the value as fixed by the boards.

VALUATION OF PROPERTY.

The case was referred to a standing master as referee, who made findings as has been recommended by this court. Exceptions to the findings were filed by defendants, but those exceptions were all withdrawn, so that defendants cannot on this appeal rely on any of the contentions which they made and which were found against them. We shall not refer to any such matters and presume that appellees will not do so either. Complainant also excepted to certain findings and to a certain extent those exceptions were sustained, but in the main the master's report was con-

firmed. The following shows the property owned by complainant and the value thereof as found by the master's report as finally approved by the court:

1. Main Canal, Outside Canal, Dos Palos Colony Canals and minor canals requiring the excavation of 5,367,768 cubic yards of material (Rec. p. 68), at 8 cents per cubic yard (Rec. p. 72)		$429,495.28
2. Headworks, stop-gates, outlet gates, bridges, weirs, station-houses, etc., etc., reproduction cost in 1907 (Rec. p. 77)		315,515.14
3. Rights of way for canals		144,119.00
4. Real estate:		
At headworks (Rec. p. 84)		1,568.80
At Quinto Section-house		7,700.00
At Los Banos (Rec. p. 84)		600.00
5. Personal Property (Rec. p. 84)		8,930.84
6. Interest on investment during construction, to-wit: 7% for one year on $907,929.06, the reproduction cost (Rec. p. 84)		63,555.03
7. Fund for operating expenses (Rec. p. 84)		20,000.00
Total Reproduction Cost		$991,484.09
8. From the present cost of structures, viz.	$315,515.14	
is deducted 30% for depreciation (Rec. p. 77)	94,654.54	94,654.54
Leaving present value (Rec. p. 87)	$220,860.60	$896,829.55

9. Complainant alleged that it was the owner of valuable water rights of the value of upwards of $760,000 (Rec. p. 3) and the court found that its water rights were of the value of $900,000 to $1,000,000 (Rec. p. 102). The court, however, held that no return

should be allowed upon the water rights owned by the company, and this presents one of the most important points of the case.

10. Complainant also attempted to show and contends that it did show that the earthwork in its canals had appreciated by the lapse of time, being now well sodded and not subject to washouts, being silted so as to reduce seepage to a minimum and the banks being worked into a road which can be traveled from one end of the canal to the other. The appreciation due to the saving of water alone was estimated at $129,365.00 (Rec. p. 90). The master held that this form of "appreciation" was proper and should be added to the reconstruction cost in fixing the present value, in the same manner that "depreciation" in structures is deducted from the reproduction cost; but held that the party who testified to the value of this appreciation did not possess the proper qualifications to permit him to testify in the matter (Rec. pp. 146-157).

11. Complainant also contended that it should be allowed an additional value to its right of way owing to the fact that, if it now acquired it, it would be compelled to pay the expense of fencing the same, whereas it now holds it freed of that obligation. The cost of such fencing would be $42,471.00 (Rec. p. 599). But this claim was disallowed (Rec. p. 86).

12. As has been noted, the court only allowed 8 cents per cubic yard for excavation, including engineering and general superintendence, which all agree amounts to 10 per cent. This would make the amount allowed for actual excavation only 7.27 cents per cubic yard. We shall show that even the defendant admitted that it would cost substantially that amount in 1896 and that the increased cost of labor and materials in 1907 required an allowance of about 10 cents per cubic yard. We, therefore, claim that the earthwork was

worth $575,730.95 instead of $429,495.28, as found by the court.

13. The court found in favor of the accuracy of our detail of structures, but made a horizontal reduction of 30 per cent. from our estimate of the cost of reproduction, largely if not entirely because of the claim that some of the canals and structures had been constructed for less about 1898. This we will show was due partly to a serious error of the master and partly to the low cost of labor and materials in that year and that the cost in 1907 was $420,686.87 instead of $315,515.14, as found by the court.

14. It will be seen, therefore, that we claim that to the valuation of the company's property, upon which the court allowed us a return, viz., $896,829.55 should be added the following:

Value of water rights	760,000.00
Additional reproduction cost of excavation	146,235.67
Additional reproduction cost of structures	105,171.73
Appreciation of earthwork	129,365.00
Cost of fencing right of way	42,471.00
Total value	$2,080,072.95

INCOME.

The rates were actually in force a year before the trial. In the year 1907-8, during which these rates were in force, the court charged the company with the following receipts:

1. For the irrigation of 93,003.35 acres at the established rates	$125,782.37
2. For waste or surplus water discharged on 20,000 acres of wild uncultivated land of Miller & Lux	10,000.00

3.	Interest and Discount	163.48
4.	Rent	751.50
	Total	$136,697.35

An analysis of this income shows:

1. Under certain contracts with Miller & Lux made in 1871 that company was entitled to a special rate where it only irrigated its land once a year. This rate was less than the rates established by the Board of Supervisors in some cases and the loss of the company in the year 1907-8 was $4,108.65, which the court charges against the company in the same manner as if it had been actually received. Of course, we fully understand that the validity of the rates must be determined on the assumption that they apply to all uniformly and we are, therefore, properly charged with the receipt thereof. But what we do claim is that it is unfair to charge the company with the sum it must annually lose by reason of this concession to Miller & Lux and at the same time allow the company no return on the water rights which it acquired in part in consideration of that concession.

2. In the same way the company is charged with $10,000.00 for waste or surplus water discharged upon the wild, uncultivated lands of Miller & Lux, although it was not received and never can be collected by the company, but under the terms of the contracts Miller & Lux are entitled to that water. The additional appropriation of 350 cubic feet of water for the outside canal was expressly made in consideration of the recognition of this right and the right itself was clearly inferred from the earlier contracts. If this should be held to be a burden placed upon our water rights which should be charged against us, it in no way differs from an annual payment for such water rights. We should, of course, stand the payments as part of our invest-

ment, but we should be allowed a return on the water rights which we obtained in consideration thereof.

3. On the trial there was another dispute as to whether certain lands of Miller & Lux were irrigated with waters belonging to the canal company for which it should receive the established rate, or with water belonging to Miller & Lux and carried by the company, which resulted in charging the company with $13,349.56 more than the company actually received. While we feel that we were right in that matter, it involves intricate questions of fact, including measurement of water, duty of water and such matters, which we can hardly ask this court to review, so we shall not reopen that question in this court.

MAINTENANCE.

The amount of money actually expended by complainant for maintenance in 1907-8 and the amount allowed by the court in passing on the validity of the rates established were as follows:

	Actually Expended	Allowed	Loss
Canal cleaning	$15,760.44	$ 6,074.23	$ 9,686.21
Damage Claims	192.28	192.28	
Dredge Operating	1,309.35	1,309.35	
Expense, General	2,034.98	2,034.98	
Expense, Automobile	1,343.29	1,343.29	
Expense, S. F. Office	440.64	440.64	
Horses and feed	3,548.02	3,548.02	
Household furniture	233.48	233.48	
Instruments and office fixtures	143.40	143.40	
Labor	11,034.05	11,034.05	
Legal Expense	18,407.54	11,721.31	6,686.23

Lumber and Piles....	822.08	822.08	
Rent, S. F. Office....	800.00	800.00	
Irrecoverable accts....	378.29	378.29	
Repairs at head-works	1,574.86	1,574.86	
Repairs at section-houses	597.20	597.20	
Re-surveying and mapping	2,373.49	2,373.49	
Salaries	6,929.49	6,929.49	
Subsistence	4,276.22	4,276.22	
Taxes	8,319.44	8,319.44	
Telephone	282.17	141.08	141.09
Tools and Machinery	21.93	21.93	
Vehicles and harness	571.16	571.16	
Wood	148.50	148.50	
Corporation License Tax	488.10	488.10	
	$82,030.40	$65,516.87	$16,513.53

1. CANAL CLEANING.

No question was made as to the fact that the amount of money claimed for canal cleaning was actually and necessarily expended in the year 1907, but the court only allowed the "average" amount expended during a long period of years. We claim that the law demands that the rate be fixed so as to allow us our actual expenditures, and that the average amount during a long period of years is not a proper basis, especially in view of the fact that the acreage irrigated, the extent and value of the canals, and the cost of labor and materials have doubled during that period.

It cannot be denied that there were a number of items, including the company's earnings, that, for the year in question, were largely in excess of any average that could be estimated for any considerable period of years. Consequently, we claim that it is not equitable to select one item of expense and average that over a long period of years, without applying the same principles, and where proper the same practice, to other items, both of earnings and expense.

2. LEGAL EXPENSES.

The court also upheld the propriety of all the items of legal expense, but in the same manner only allowed us the average amount during a long period of years. This is subject to the same consideration as the item of canal cleaning. The attacks upon the company's rights have been increased in recent years and the expense has steadily increased. The effect of the decision is to compel the company to fight for and litigate the title to its water rights, and allows only a part of its expenditures necessarily made in that behalf; allows nothing for the value of such water rights, and, as stated, only a part of the actual cost of defending the same.

3. ADMINISTRATION.

The court allowed our general salary account, but the evidence shows that it should have allowed an additional amount due to these facts: In the early history of the company it was not in any way controlled by Miller & Lux and at that time its general annual salaries were as follows:

President	$1,500.00
General Manager	2,400.00
Secretary	2,400.00
Engineer	2,400.00
	$8,700.00

In 1878 the company came under the control of Miller & Lux, and the officers of that company became its officers at the following annual salaries, which are still in force:

President	$1,200.00
Vice President and General Manager	nil
Secretary	1,800.00
Engineer	840.00
	$2,840.00

(See Rec. p. 519.)

Since that time the company's business and property have more than doubled. As the defendants are eager to charge the company with every disadvantage suffered by its relations with Miller & Lux, it should be entitled to credit for anything saved by that relation, and it should be entitled to at least the salaries which were in vogue before that relation commenced. This would add $4,860.00 to the maintenance cost. We, therefore, claim the following additional items of maintenance:

Canal Cleaning	$ 9,686.21
Legal Expense	6,686.23
Salaries	4,860.00
	$21,232.44

4. DEPRECIATION.

We claimed a fund to meet the depreciation of structures in the annual sum of $12,748.08. On preliminary injunction this claim was upheld (163 Fed. 567), but the master refused to allow it because we included two items of replacement in our maintenance account. These, however, we withdrew and the court upheld our right to this sum to meet depreciation, so that this matter is settled in our favor.

5. SUMMARY.

The relative nature of the amounts allowed by the court and the amounts claimed by us before this court are therefore as follows:

	Court	Complainant
Value of property on which a return should be allowed	$896,829.55	$2,070,072.95
Receipts	136,697.35	136,697.35
Return at 6%	53,809.77	124,204.37
Maintenance	65,657.96	86,890.40
Depreciation	12,748.08	12,748.08
	132,215.81	223,842.85
Surplus or Deficit	4,481.54	87,145.50

ASSIGNMENT OF ERRORS.

(Trans. pp. 1534-40.)

The Court erred:

I.

In dismissing said suit and entering a final decree therein in favor of said defendants and against complainants for their costs.

II.

In not making and entering a decree in favor of said complainant and against said defendants adjudging and decreeing that the orders of the Boards of Supervisors of Stanislaus, Merced and Fresno Counties deprive, and that each of them deprive, the complainant of its property without due process of law and without just compensation, and perpetually enjoining and restraining the defendants from publishing, enforcing or attempting to enforce said orders or either of them.

III.

In holding and deciding that complainant's income under said orders of said Boards of Supervisors is in excess of six per cent on the value of complainant's property used and useful in supplying the inhabitants of the Counties of Stanislaus, Merced and Fresno with water.

IV.

In overruling complainant's exceptions to the report of the master made and filed therein.

V.

In finding that the cost of reproduction of the earthwork excavation in the canals of the complainant is the sum of four hundred and twenty-nine thousand four hundred and ninety-five dollars and twenty-eight cents ($429,495.28), for the reason that said finding is unsupported by the evidence, and the evidence shows that the cost of reproducing the same is the sum of five hundred and seventy-five thousand seven hundred and thirty dollars and ninety-five cents ($575,730.95).

VI.

In finding that the present value of the earthwork excavation in the said canals is the sum of four hundred and twenty-nine thousand four hundred and ninety-five dollars and twenty-eight cents (429,495.28), for the reason that said finding is unsupported by the evidence, and the evidence shows that the present value of the said earthwork excavation is the sum of seven hundred and five thousand and ninety-five dollars and ninety-five cents ($705,095.95), and also for the reason that the Court erred in not finding that the said earthwork excavation had appreciated in value in the sum of one hundred and twenty-nine thousand three hundred and sixty-five dollars ($129,365.00).

VII.

In finding that the evidence is insufficient to show that the value of the said earthwork excavation has appreciated in the sum of one hundred and twenty-nine thousand three hundred and sixty-five dollars ($129,365.00), for the reason that the said appreciation is shown by uncontradicted evidence and admitted by the witnesses of defendants.

VIII.

In finding that the cost of reproduction of the structures on the canals of complainant is the sum of three hundred and fifteen thousand five hundred and fifteen dollars and fourteen cents ($315,515.14), for the reason that the same is unsupported by the evidence, and the evidence shows that the cost of reproduction of said structures is the sum of four hundred and twenty thousand six hundred and eighty-six dollars and eighty-six cents ($420,686.86).

IX.

In finding that the amount of interest lost by complainant on its money invested during construction is the sum of Sixty-five thousand five hundred and fifty-three dollars and three cents ($65,553.03), for the reason that the same is not supported by the evidence, and the evidence shows that the interest so lost is the sum of Eighty-three thousand and seventy-nine dollars and sixty-four cents ($83,079.64).

X.

In finding that complainant's properties are not enhanced in value to the extent of Forty-two thousand four hundred and seventy-one dollars ($42,471.00), the value of the fences along the right of way of said company, for the reason that said finding is not supported by the evidence, and the evidence shows that the said properties of complainant are enhanced in value in the said sum, by reason of the existence of said fences, and by reason of the said Complainant owning said right of way freed of any liability or duty to erect fences along the same.

XI.

In finding that complainant is not entitled to a reasonable return upon the value of the water right owned by complainant, and found to be of the value of approximately one million dollars ($1,000,000.00), for the following reasons:

(a) Because the evidence shows that the said water right is of the value of more than seven hundred and sixty thousand dollars ($760,000.00), to-wit: One million dollars ($1,000,000.00).

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(b) Because the evidence shows that the complainant is the owner of said water right of the value aforesaid, and is entitled to a return thereon.

(c) Because the court erred in finding that because complainant had devoted the said water right to the public use, it is not entitled to any return thereon.

XII.

In finding that Miller & Lux never granted the said complainant any water right, for the reason that the same is not supported by the evidence, and for the reason that the evidence shows that the said water right was acquired with the expressed consent of Miller & Lux, a large riparian owner on said river; and that the same could not have been acquired without such consent, and that in consideration of the said consent, the said complainant and its predecessors granted to said Miller & Lux certain valuable rights.

XIII.

In finding that the predecessors in interest of complainant did not pay John Bensley the sum of one hundred and twelve thousand five hundred dollars ($112,500.00), for water rights and rights of way which he had acquired, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the said complainant did pay the said John Bensley one hundred and twelve thousand five hundred dollars ($112,500.00) for such rights.

XIV.

In finding that the said complainant did not pay to the said Miller & Lux a sum equivalent to one hundred and seventy-four thousand nine hundred and

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twenty-nine dollars and sixty-seven cents ($174,929.67) by way of reduced rates for water in consideration of the right of way and water right granted by that company to the predecessors in interest of complainant, for the reason that the evidence is insufficient to justify such finding, and the evidence shows that the complainant and its predecessors have paid to the said Miller & Lux a sum equivalent to one hundred and seventy-four thousand nine hundred and twenty-nine dollars and sixty-seven cents ($174,929.67) in consideration of the rights so granted.

XV.

In finding that the complainant and its predecessors have not paid to the said Miller & Lux a sum equivalent to ten thousand dollars ($10,000) a year, being the value of the waste water delivered to the said Miller & Lux under the terms of the contracts between the said Miller & Lux and the predecessors in interest of complainant, which sum if capitalized at six per cent. would amount to the sum of one hundred and sixty-six thousand six hundred and sixty-six dollars ($166,666.00), for the reason that the evidence is insufficient to support the said finding, and the evidence shows that complainant and its predecessors have paid to the said Miller & Lux the sum aforesaid.

XVI.

In finding that the complainant and its predecessors in interest have not paid the sum of four hundred and fifty-three thousand and ninety-five dollars and sixty-cents ($453,095.60) for a part of the water rights and rights of way obtained and owned by complainant for the reason that the evidence is insufficient to justify such finding, and the evidence shows that the complainant has paid the sum aforesaid.

XVII.

In refusing to allow complainant any return upon the value of its water right for the reason that the said Court has charged complainant with all of the sums paid by it in consideration of the said water right, and has allowed said complainant nothing for the water right acquired in exchange therefor.

XVIII.

In finding that it does not appear in the testimony what rights to water Miller & Lux owned at the time of the commencement of this enterprise, for the reason that the evidence shows that they were riparian owners upon the river, and as such riparian owners entitled to the unobstructed flow of all the waters of said river.

XIX.

In finding that the complainant's predecessor acquired its water rights by appropriation, for the reason that the evidence shows that the said right could be acquired only by prescription, or by grant from said riparian owners.

XXI.

In finding that the said complainant should have received and should be charged with the sum of ten thousand dollars ($10,000.00) per annum, being the value of the waste waters delivered to Miller & Lux, for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the complainant never did receive and was never entitled to receive the said sum.

XXII.

In finding that Miller & Lux were not entitled, under the terms of its contracts with complainant, to the said waste water, for the reason that said finding is not supported by the evidence, and the evidence shows that the said Miller & Lux is entitled thereto.

XXIII.

In finding that the purchasing of water by Miller & Lux for the irrigation of uncultivated land was inconsistent with its claim to the waters wasted by complainant, for the reason that the evidence is insufficient to justify the said finding.

XXIV.

In finding that the said complainant could have diverted three hundred and fifty (350) cubic feet of water into its outside canal without the consent of Miller & Lux, for the reason that the evidence is insufficient to support said finding, and the evidence shows that the said complainant could not divert any water from said river without the consent of Miller & Lux.

XXV.

In finding that Miller & Lux by purchasing said water for the irrigation of uncultivated lands, waived or abandoned any claim it had to the waste waters from said canal.

XXVI.

In finding that more water was wasted from said canal than was necessary, and in finding that water was turned into the swamps other than water neces-

sarily wasted, for the reason that the evidence is not sufficient to support said finding, and the evidence shows that there was no more waste than necessary.

XXVIII.

In finding that complainant will receive 7.704 per cent. income on the present value of its properties, for the reason that the said finding is not supported by the evidence, and the evidence shows that complainant will not receive even two (2) per cent. on the value of its properties.

XXIX.

In finding that the net income which will be received by the complainant under said rates will be a just and reasonable compensation to the complainant for the furnishing of said water, for the reason that the evidence shows that the complainant will receive no just nor reasonable compensation from the said rates.

XXX.

In finding that there is no evidence sufficient to determine the value of the franchise of complainant for the reason that the same is unsupported by the evidence, and the evidence shows that complainant's franchise is of the value of at least seven hundred and sixty thousand dollars ($760,000.00).

XXXI.

In finding that the total value of complainant's property is the sum of eight hundred and ninety-six thousand eight hundred and twenty-nine dollars and fifty-five cents ($896,829.55), for the reason that the

evidence is insufficient to justify said finding, and the evidence shows that the value of complainant's property exceeds the sum of two million dollars ($2,000,000.00).

XXXII.

In finding that the total receipts of the said complainant under the rates fixed by said ordinances is the sum of one hundred and thirty-six thousand, six hundred and ninety-seven dollars and thirty-five cents ($136,697.35), for the reason that the evidence is insufficient to justify said finding, and the evidence shows that the total receipts of complainant amount to the sum of one hundred and thirteen thousand three hundred and forty-seven dollars and seventy-nine cents ($113,347.79).

XXXIII.

In finding that the total expense of maintenance of said complaint is the sum of sixty-seven thousand one hundred and fourteen dollars and eighty-four cents ($67,114.84), for the reason that the same is unsupported by the evidence, and the evidence shows that the said expense of maintenance of complainant is the sum of ninety-four thousand three hundred and twenty-three dollars and thirty-eight cents ($94,323.38) per annum.

ARGUMENT.

THE APPELLEES CONTEND AND THE TRIAL COURT HELD THAT APPELLANT IS ENTITLED TO NO RETURN ON ITS WATER RIGHTS IRRESPECTIVE OF HOW THEY WERE ACQUIRED OR WHAT THEIR ACQUISITION MAY HAVE COST THE COMPANY.

On this subject counsel for appellees in his brief in the court below stated the position of the appellees in the following manner:

> "But irrespective of whether or not complainant paid any sort of consideration for its water, or water rights, and irrespective as to how or in what manner the same may have been acquired, they are within the meaning and intent of section 1, article XIV of the Constitution of California and of the irrigation act of 1885 (Stats. 1885, p. 95) appropriated to public use if (as is admitted in the case at bar) they are devoted to distribution and sale to the public, and being so devoted, or appropriated, to a public use, neither the water nor the right to its use (which constitutes the so-called water right) can, in a proceeding to fix the water rate to be paid by the public under said provisions of the state constitution and irrigation act, be valued, or included in the valuation of complainant's plant used and useful in the diversion and distribution of such waters to the public.
>
> "Section 1 of Article XIV of the Constitution of the State of California provides:
>
> " 'The use of all water now appropriated, or that may hereafter be appropriated for sale, rental, or distribution, is hereby declared to be a public use, and subject to the regulation and control of the state, in the manner to be prescribed by law.'

> "The State Irrigation Act of 1885 contains the same provisions.***
>
> "Consequently, even should it appear that complainant, or any of its predecessors, had purchased any of the waters or water rights, yet such waters and water rights would, under said decisions, be nevertheless 'appropriated to public use' within the meaning of the State Constitution and Irrigation Act of 1885."

The learned judge of the court below adopted the same view and in his opinion used the following language:

> "It is contended, however, on the part of complainant, that whether it paid anything for the right of appropriation or not, the fact is not conclusive of its value at the time of use, *and I am of the opinion that it is not material to the controlling question whether the water right is property which the complainant as a carrier is entitled to have valued as its property under the statute.* The latter question is the one to be considered in this case. The master found that the water right claimed by complainant was a valuable one, and under the testimony was of the approximate value of one million dollars."

It will be seen from this that if the water which is now being served to the public was originally in private ownership and was purchased and paid for by appellant and then devoted to the public use, the position of appellees and the trial court is that no return of any kind could be demanded on the money thus expended. Or if the company received the water from another company under a contract by which it paid a fixed sum annually for the water delivered, the result would be the same and it could get no return on the money so expended. Or if the company should acquire the

water by condemnation and should pay the value as fixed by a jury no return could be demanded on the money thus expended. In fact the company now has pending a suit to condemn additional water as against a riparian owner. (See *San Joaquin and Kings River Canal and Irrigation Company vs. Stevinson*, 164 Cal. 221.) Under this theory any amount paid by the company to acquire such rights will be lost and no return can ever be earned upon it. While this position is indeed startling, appellees were necessarily driven to it by reason of the uniform rule adopted by this court that it is immaterial how or by what means a company acquired its property, it is entitled to a return on its actual present value. The means of acquisition are necessarily immaterial. Appellees must therefore maintain the extreme position that we have indicated or abandon the claim that we are not entitled to any return on our water rights.

APPELLEES' POSITION IS BASED ENTIRELY UPON AN ERRONEOUS CONSTRUCTION OF THE PROVISIONS OF THE CONSTITUTION OF CALIFORNIA OF 1879, EVEN IF APPLICABLE IN VIEW OF THE FACT THAT THE COMPANY'S WATER RIGHTS WERE ACQUIRED AND PARTIALLY PAID FOR AT LEAST AS EARLY AS 1871.

The provisions of the Constitution relied upon are as follows:

"ARTICLE XIV.

"Section 1. The use of all water *now* appropriated (i. e. devoted), or that may hereafter be appropriated (i. e. devoted), for sale, rental, or distribution, is hereby declared to be a public use and subject to the regulation and control of the state, in the manner provided by law.

"Section 2. The right to collect rates or compensation for the use of water supplied to any county, city and country or town, or the inhabitants thereof, is a franchise, and cannot be exercised except by authority of and in the manner prescribed by law."

The contention of appellees is simply that this constitutional provisional in some way "appropriated" the water of the company to a public use *and at the same time deprived the company of any return on the value thereof.*

There are several things in connection with these enactments that should be briefly noted:

(a) The word "appropriated" does not refer to statutory appropriation of water, but it means devoted or appropriated to a public use. It refers not to the means by which the water is acquired, but to the fact that the owner has devoted or appropriated it to the use in question. The section therefore includes not only water acquired by "appropriation," but to water acquired by any means and then devoted or appropriated to the public use.

(b) The provision applies not only to water so appropriated or devoted after the adoption of the Constitution, but to water so devoted or appropriated before that time, and in the case at bar the water was acquired and the public use inaugurated several years before that time. It is difficult to see how a property right which was already vested could be destroyed by such an enactment even if it be given the meaning and effect attributed to it by appellees.

(c) The right to *sell or rent* this water was recognized subject only to the right of the state to regulate the rates or compensation "for the use of water supplied." This recognized the ownership of the water impressed with the public use.

(d) The effect of the constitutional provision is therefore not different from a like declaration that the operation of a grain elevator is a public use and subject to regulation and control. No one would construe such a provision as appropriating the elevator to a public use *without compensation*, nor, if so construed, would anyone seriously uphold its validity under the constitutional provision that private property shall not be taken for public use without compensation.

THE CONTENTION OF COUNSEL FOR APPELLEES AND THE DECISION OF THE TRIAL COURT ARE BASED ON CERTAIN DECISIONS OF JUDGE ROSS, CIRCUIT JUDGE OF THE SOUTHERN DISTRICT OF CALIFORNIA, AS TO THE MEANING OF THESE CONSTITUTIONAL PROVISIONS, WHICH HAVE BEEN DISAPPROVED BY THE SUPREME COURT OF CALIFORNIA, AND (PREVIOUS TO THE DECISION IN THE CASE AT BAR) BY THE UNITED STATES CIRCUIT COURT OF APPEALS OF THE NINTH CIRCUIT, AND IN FACT BY JUDGE MORROW, AS A JUDGE OF THE LATTER COURT, AND BY THE RAILROAD COMMISSION OF CALIFORNIA.

Our contentions as to the meaning and effect of these constitutional provisions have been uniformly upheld by the Supreme Court of California against the contrary views of Judge Ross as Circuit Judge. Finally the Circuit Court of Appeals adopted the view of the Supreme Court and reversed Judge Ross. Judge Ross bowed to this decision while acting as Circuit Judge, but later as Judge of the Circuit Court of Appeals, again re-asserted his earlier views. The result is now an open conflict between the two courts which can only be settled by a decision of this court. The cases in the State and Federal Courts on the subject are as follows:

STATE COURT.

People vs. Stephens, 62 Cal., 209, 233 (1882);
McCrary vs. Beaudry, 67 Cal., 120 (1885);
Fresno, etc. Irrigation Company vs. Rowell, 80 Cal. 114 (1889);
Fresno, etc. Irrigation Company vs. Dunbar, 80 Cal., 530 (1889);
San Diego Flume Company vs. Chase, 87 Cal., 56 (1891);
Clyne vs. Water Company, 100 Cal. 310 (1891);
Balfour vs. Fresno etc. Irrigation Company, 109 Cal., 221 (1895);
People vs. Elk River M. & L. Company, 107 Cal., 221 (1895);
Merrill vs. Irrigation Company, 112 Cal., 426 (1896);
Fairbanks vs. Rollins, 54 Pac., 79 (1898);
San Diego Water Company vs. San Diego, 118 Cal., 556, 567 (1897);
Fresno Canal Company vs. Park, 129 Cal., 437 (1900);
Fellows vs. Los Angeles, 151 Cal., 52, 58, 59 (1907);
Stanislaus Water Company vs. Bachman, 152 Cal., 716 (1908);
Leavitt vs. Lassen Irrigation Company, 157 Cal., 82 (1909);
Lassen Irrigation Company vs. Long, 157 Cal., 94 (1909);
Thayer vs. California Development Company, 164 Cal. 117 (1913).

MONTANA.

Wilterding vs. Green, 4 Idaho, 773, 45 Pac., 134.

FEDERAL COURTS.

San Diego, etc. Company vs. National City, 74 Fed., 79 (May, 1896), (By Ross, Circuit Judge), 174 U. S. 739, 43 L. Ed. 1154 (1898);

Lanning vs. Osborne, 76 Fed., 319 (Sept., 1896); (By Ross, Circuit Judge);

Osborne vs. San Diego T. & T. Company, 178 U. S. 22, 20 Sup. Ct. 860, 44 L. Ed. 961, (Same case in Supreme Court, opinion by Mr. Justice McKenna);

San Diego Flume Company vs. Souther, 90 Fed., 164 (C. C. A.); 104 Fed., 707 (C. C. A.); (By Gilbert, Circuit Judge; Morrow, Circuit Judge, and Hawley, District Judge, adopting view of Supreme Court of California);

Souther vs. San Diego Flume Company, 112 Fed., 228 (1901); (By Ross, Circuit Judge, following Circuit Court of Appeals);

Boise City I. & L. Company vs. Clark, 131 Fed., 414, (C. C. A.); (Opinion by Ross, Circuit Judge, re-asserting his original views);

Imperial Water Company vs. Holabird, 197 Fed., 4 (May, 1912), (Opinion by Morrow, Circuit Judge, and Ross, Circuit Judge, re-asserting early views of Judge Ross; Gilbert, Circuit Judge, dissenting.)

REVIEW OF CASES.

We shall briefly review all of these cases:

1. The Constitutional provision was first referred to in *People vs. Stephens*, 62 Cal., 209, 233, as follows:

> "Now, these provisions, as well as other provisions of the Constitution, must receive a practical common-sense construction. They must be

considered with reference to the prior state of the law, with reference to the mischief intended to be remedied by the change. ****** It is not left to the legislature, as formerly to say whether it shall be a public use or not, but the Constitution itself declares it to be such, and then makes the use subject to the regulations and control of the state."

2. *McCrary vs. Beaudry*, 67 Cal., 120, was a mandamus proceeding to compel defendant to furnish plaintiff with water upon payment of the rates established by the defendant and the court said:

"Whenever water is appropriated for distribution and sale, the public has a right to use it. That is, each member of the community, by paying the rate fixed for supplying it, has a right to use a reasonable quantity of it, in a reasonable manner. Water appropriated for distribution and sold is *ipso facto* devoted to a public use, which is inconsistent with the right of the person so appropriating it to exercise the same control over it that he might have exercised if he had never so appropriated it."

3. These cases were followed by five cases, viz:

Fresno etc. Irrigation Co. vs. Rowell, 80 Cal., 114;

Fresno etc. Irrigation Co. vs. Dunbar, 80 Cal., 530;

San Diego Flume Co. vs. Chase, 87 Cal., 561;

Clyne vs. Water Co., 100 Cal., 310;

Balfour vs. Fresno etc. Irrigation Co., 109 Cal., 221,

in all of which contracts by water companies selling "water rights" for a lump sum and annual payments were upheld as valid and binding. In some of those cases the water rights were sold for a cash amount

and an annual charge. In one case the water right was exchanged for a right of way, and in one case the right was sold in exchange for a riparian right. The practical effect of these decisions was that a water company had a right to contract with an individual as to the amount he should pay in order to entitle him to receive water in the absence of any rate being fixed by the public authorities.

4. It was at this point that Judge Ross decided the case of

San Diego, etc. Co. vs. National City, 74 Fed. 79.

That was a suit brought to have an ordinance fixing water rates held invalid,

> "and that it be decreed that the complainant corporation is entitled to charge and collect for 'water rights,' at reasonable rates, as a condition upon which it will furnish water to the inhabitants of the municipality for the purposes of irrigation, *independent of the rates fixed by the board of trustees* for water sold and furnished by the company."

In regard to this claim the court said:

> "One of the objects of the present suit is to obtain a decree establishing the validity of the claim of the complainant to exact a sum of money, in addition to an annual charge, as a condition on which alone the complainant will furnish consumers of water for irrigation purposes, other than those to whom it had furnished it for such purposes prior to December 18, 1892. And the contest that arose between the consumers and the company over this charge for a so-called 'water right,' and the refusal of the municipal authorities of National City to allow that charge in respect to acreage property within the city limits, is one of the principal causes of the present suit. It

does not change the essence of the thing for which the complainant demands a sum of money to call it a 'water right,' to say, as it does, that the charge is imposed for the purpose of reimbursing complainant in part for the outlay to which it has been subjected. It is demanding a sum of money for doing what the constitution and laws of California authorized it to appropriate water within its limits, conferred upon it the great power of eminent domain, and the franchise to distribute and sell the water so appropriated, not only to those needing it for purposes of irrigation, but also to the cities and towns, and their inhabitants, within its flow, for which it was given the right to charge rates to be established by law, and nothing else. No authority can anywhere be found for any charge for the so-called 'water right.' The state permitted the water in question to be appropriated for distribution and sale for purposes of irrigation, and for domestic and other beneficial uses; conferring upon the appropriator the great powers mentioned, *and compensating it for its outlay by the fixed annual rates.* The complainant was not obliged to avail itself of the offer of the state, but, choosing, as it did, to accept the benefits conferred by the constitution and laws of California, it accepted them charged with the corresponding burden. Appropriating, as it did, the water in question for distribution and sale, it thereupon became, according to the express declaration of the constitution, charged with a public use."

It should be noted that in that case the company did not claim that it owned certain water rights upon which the rates fixed by law should give it an adequate return, but it contended that it should be permitted not only to collect the rates fixed but also an additional sum for the use of the water. In this the company

was clearly wrong, for the rates fixed by law should have been adequate to compensate the company for all of its property including its water rights. We therefore in no way question the correctness of the decision, but some of its language has been interpreted as meaning that no returns should be allowed on the water rights acquired by the company. The meat of the decision is that the company having appropriated or devoted the water for distribution and sale it became charged with a public use.

> "The state permitted the water in question to be appropriated (that is, devoted) for distribution and sale for purposes of irrigation, and for domestic and other beneficial uses; *conferring upon the appropriator the great powers mentioned (eminent domain) and compensating it for its outlay by the fixed annual rates.*"

This can only mean that the state gave the company the power of eminent domain by which it could acquire the water, and that it should be compensated for its outlays in acquiring the water by fixed annual rates. Still in the case at bar it is construed to mean that although the company exercises the right of eminent domain and acquires the water and pays therefor, the rates should be so fixed as to give the company no return thereon or on its outlay therefor.

5. *San Diego, etc. Co. vs. National City*, 174 U. S., 739, 43 L. Ed. 1154.

The case last above referred to reached this court by appeal. In the statement of the case, Mr. Justice Harlan stated the contention of the company as follows:

> "The plaintiff asked that it be further decreed that it was entitled to charge and collect for water rights at reasonable rates as a condition upon

which it would furnish water for the purposes of irrigation, *notwithstanding the rates fixed by the trustees for water sold and furnished.*"

In disposing of this contention this court said:

"One of the questions pressed upon our consideration is whether the ordinance of the city should have expressly allowed the appellant charge for what is called a 'water right.' That right, as defined by appellant's counsel, is one 'to the continued and perpetual use of the water upon the land to which it has been once supplied upon payment of rates therefor established by the company.' In the opinion of the circuit court it is said that 'no authority can anywhere be found for any charge for the so-called water right.' This view is controverted by appellant, and cases are cited which, it is contended, show that the broad declaration of the circuit court cannot be sustained. *Fresno Canal & Irrigation Co. vs. Rowell*, 80 Cal. 114; *Fresno Canal & Irrigation Co., vs. Dunbar*, 80 Cal. 530; *San Diego Flume Co. vs. Chase*, 87 Cal. 561; *Clyne vs. Benicia Water Co.*, 100 Cal. 310; *San Diego Flume Co. vs. Souther* (C. C. A.), 90 Fed. Rep. 164.

"We are of opinion that it is not necessary to the determination of the present case that this question should be decided. We are dealing here with an ordinance fixing rates or compensation to be collected within a given year for the use of water supplied to a city and its inhabitants or to any corporation, company, or person doing business or using water within the limits of that city. In our judgment, the defendant correctly says in its answer that the laws of the state have not conferred upon it or its board of trustees the power to prescribe by ordinance or otherwise that the purchase and payment for so-called 'water rights' should be a condition to the

exercise of the right of consumers to use any water appropriated for irrigation or affected with a public use.

"The only issue properly to be determined by a final decree in this cause is whether the ordinance in question fixing rates for water supplied for use within the city is to be stricken down as confiscatory by its necessary operation, and therefore in violation of the Constitution of the United States. If the ordinance, considered in itself, and as applicable to water used within the city, is not open to any such objection, that disposes of the case, so far as any rights of the appellant may be affected by the action of the defendant. The appellant asks, among other things, that it be decreed to be entitled to charge and collect for 'water rights' at reasonable rates *as a condition* upon which it will furnish water for the purposes of irrigation, *notwithstanding the rates fixed by the defendant's board of trustees for water sold and furnished within the city.* That is a question wholly apart from the inquiry as to the validity under the Constitution of the United States of the ordinance of the defendant fixing annual rates in performance of the duty enjoined upon it by the constitution and laws of the state. Counsel for appellant, while insisting that the circuit court erred in saying that there was no such thing as a 'water right' says: 'The constitution of the state has nothing whatever to do with a water right or the price that shall be paid for it. It simply provides for fixing the *annual rental* to be paid for the water furnished and used. When one obtains his water right by purchase or otherwise, he has a right of demand that the water shall be furnished to his lands at the price, fixed, as provided by law, and that the company shall exact no more. But he must first acquire the right to have the water on such terms.

Whether in fixing the annual rates to be charged, the body authorized to fix them can take into account the amount that has been received by the company for water rights, is another question, *and one that is not presented in this case.* Nor is any question raised as to what would be a reasonable amount to exact for a water right, or whether the courts can interfere to determine what is a reasonable amount to charge therefor.'

"These reasons are sufficient to sustain the conclusion already announced, namely, that the present case does not require or admit of a decree declaring that the appellant may, in addition to the rates established by the ordinance, charge for what is called a 'water right' as defined by it. It will be time enough to decide such a point when a case actually arises between the appellant and some person or corporation involving the question whether the former may require, as a condition of its furnishing water within the limits of the city on the terms prescribed by the defendant's ordinance, that it be also paid for what is called a 'water right.'"

It seems perfectly clear to us that these cases can in no way be deemed authority for the proposition that in fixing rates no return should be allowed on the water rights acquired and owned by the company. On the contrary it is clear that the company took the position in those cases that the authorities in fixing the rates had nothing to do with the right of the company to make a charge for a water right. In those cases the company conceived that it had a right to furnish water only to those to whom it should sell a "water right" and that it might establish the price at which it would sell this "water right," irrespective of the action of the public authorities. To us it seems clear that in this the company was entirely in error.

Its duty was to supply the public and the right to receive that supply was vested in the public as much as is the right to transportation on a railroad. This necessarily results from the fact that the company was engaged in a business "impressed with a public use." Since the public was entitled to participate in the use, the only condition which could be imposed was the payment of the rate established by the company or by the public authorities. Our contention being that the rate so established should be sufficient to allow a proper return upon the water rights owned by the company cannot be said to have been denied in these cases in which no such claim was made or passed upon. We are speaking of water rights owned by the company; in that case they were speaking of "water rights" to be granted by the company. They were contending for the right to impose a charge beyond the established rate for the "water right" so granted. We are contending for a rate which will allow us a proper return upon the water which we own and which we have devoted to the public use. Under such circumstances it is idle to say that that case can be said to be authority against our contention. To illustrate: suppose the legislature should declare that the sale of bread was a public use and should fix a rate at which it might be sold. Could it reasonably be contended that such rate should not take into consideration the value of the commodity sold, but should only cover the cost of delivering the commodity? If some person claimed that he might, in addition to the established rate, demand a sum for the right to receive the bread and this contention was denied, could that reasonably be construed as a decision that the purveyor should receive no return on the value of the commodity? This would seem clear, but what difference is there between the commodity in that case

and the case at bar? Water is quite as valuable as bread and often relatively less plentiful. Its acquisition may cost as much and its value when acquired may be as great. What reason can there be given for allowing a return thereon in one case, and denying it in another?

As will appear from some of the authorities hereafter cited, it would be strange indeed if the state had conferred the power of eminent domain on companies such as this, authorizing them to acquire, at the expense of such companies, riparian rights such as have been acquired and are now held by this company, or other rights to water, necessary to enable the company to supply the water, and rent and distribute it to the public; it would be strange indeed if this power had been conferred, and the companies acting thereon at the same time were denied the right to any earnings or return on the money thus invested. Looked at as applied to present conditions, such a construction would enable the company to acquire such essential rights for public use upon just compensation paid by the companies to the private owners, and then would require such companies to furnish the same to the public for no compensation at all. Considered as applied to the future, the obvious effect of such a construction would be, in effect, to repeal the provisions authorizing eminent domain in such cases. Obviously, no one could be found foolish enough to make such expenditures, beneficial and needful on behalf of the public service, upon the condition that compensation or earnings thereon should not be allowed. It is altogether one thing to hold in effect that a shipper on a railroad cannot be compelled, before enjoying the service, to purchase and pay for an interest in the road, and quite another matter to deny the company, in fixing rates, earnings on the

investment necessarily expended in acquiring its rights of way and other essential rights and easements for the public service. The acquisition of its rights is undeniably essential and indispensable to the public service. They cannot be acquired without expenditures, and they have a public value. It is altogether consistent to hold that the companies may not compel a return *of* its investment before granting the right to the public service. This would be inequitable and inconsistent with the nature and character of this, and in fact, with all other public service; but to hold that a public service company may not receive a return *on* its investment or property is simply confiscatory and prohibitory. That the company may not charge a sum equal to the value of the water acquired and devoted to the public use as a condition of enjoying the public service, is doubtless a correct rule; but to hold that it has conferred upon it the powers of eminent domain, and with the corresponding duty to exercise it on behalf of the public, and that it is not to be allowed to earn on the value of the investment thus necessarily made, is to reach a conclusion upon one branch of the constitution and laws of California that is not only confiscatory and a denial of the property rights of the company, but has the unavoidable result that it repeals, in effect, other and essential provisions of the constitution and laws of that state. It has been provided that such rights may be acquired in aid of the public service, and that such companies are authorized to acquire riparian rights in aid thereof, and upon the condition that after having acquired the same they cannot withhold the use thereof from the public.

As we understand it, it is the well-established rule of decision in this court (except in certain cases not here applicable, and where independent construction

by this court is necessary) to adopt the construction of the highest courts of the several states as to the constitution and laws of such states. And, measured by this rule, we think the construction for which we here contend, is already well established. The true basis and measure of valuation in such cases seems to be illustrated by the situation that the state itself may acquire for the public use these water rights, or may, as it has done, authorize its agencies and public service corporations to acquire the same rights. If the state should acquire these rights, it would necessarily have to expend certain reasonable amounts in their acquisition and in converting them from private to public ownership. Whatever this would cost either the state or its public service agencies would be an investment, and where made on the part of a public service corporation, the same earnings thereon should be allowed as in the case of other necessary investments for the same service.

6. *People vs. Elk River M. & L. Co.*, 107 Cal. 221.

But if these cases did raise any doubt as to this proposition it was quickly removed by a decision of the Supreme Court of California in the above case, in which it was said:

> "It is contended that the law of the case is changed by Section 1, Article XIV, of the State Constitution, which makes the use of water for sale, rental, or distribution, a public use. *Certainly it was not intended by that provision to appropriate such water for the use of the public without compensation.* The section recognizes the use as one in behalf of which the right of eminent domain may be invoked, and asserts the right of the state to regulate and control the sale, rental, and distribution of the same. *(People vs. Stephens*, 62 Cal., 209; *McCrary vs. Beaudry*, 67 Cal., 120.)"

That case alone and one sentence in it is decisive of the construction of this constitutional provision. The court says:

> "True the water has by the force of the constitution been appropriated to the use of the public," but "it was not intended by that provision to appropriate *such water* for the use of the public *without compensation.*"

If the water had been taken the value thereof would have been paid; if the use of the water only is taken the value of the use must be paid. It is paid only by the rates which the company may collect for the use of the water, and unless those rates do allow the company a return on the value of the water the same is taken without compensation.

7. *San Diego Water Company vs. San Diego*, 118 Cal., 556, 567.

But we need not speculate how this "just compensation" for the "water" taken is to be made, for that also has been decided by the Supreme Court of California in the case last above cited. That was a case involving the validity of water rates and the court used this language:

> "It is apparent that the water company does not own the water which it collects and supplies, or the plant which it uses to collect and distribute that water, in the same sense in which a man is said to own his house or his farm. By the very nature of the use to which it is applied, the company has devoted that property to a public use. Having once undertaken to perform that must carry on its business under the lawful public duty it must continue to perform it and regulations of the government. *In effect the state may be said to have appropriated the water and the plant to public use. For that appropriation*

it is bound to make just compensation, and it has provided for such compensation by requiring the municipal authorities to fix just and reasonable rates at which the water is to be furnished to and received by the consumers. Since the state has 'taken' the use of this property it is bound to provide a just compensation for that use, and Article XIV of the constitution must be construed as providing for that just compensation.

"The question of what is just compensation in such a case is, we think, in all respects analogous to the question which arises in every case of appropriation under the power of eminent domain; and it may be reduced to the formula that the public must pay the actual value of that which it appropriates to the public use.

No comment on this language is necessary. With these clear cut statements of the meaning and effect of the constitutional provision we will resume the review of the cases in the Federal Courts.

8. *Lanning vs. Osborne*, 76 Fed., 319.

This case was instituted by the receiver of a water company and was decided by Judge Ross. It appeared that the company had been charging $3.50 an acre for water. The receiver deemed this an insufficient amount and desired to establish a rate of $7.00 an acre. The suit was brought to obtain an adjudication that such rate might be established and collected. The defendants answered, not claiming that the company had contracted with the land owners to forever furnish water for $3.50, but that by its conduct it was estopped from charging a higher rate. The court held, and we think correctly, that the power to fix the rate was in the company until fixed by the public authority; that if the rate fixed by the company was unreasonable, the parties aggrieved must first resort to the public board having power to fix the rates. The court also

held that by selling water at one rate the company would not be estopped from changing its rates.

While this was all that was involved in the case, Judge Ross, in the course of his decision held flatly that a water company could not enter into any binding contract fixing water rates. This has ever since been his view of the law, although, as we shall show, the contrary has been time and again held by the Supreme Court of the state. This unfortunate difference of opinion on this question has resulted in the decision in the case at bar. It will be interesting therefore to examine the reasoning by which Judge Ross reached his conclusion.

(a) In the first place he refers to the fact that such contracts had been upheld by the Supreme Court of California in the *Rowell* case (80 Cal., 114) and the *Dunbar* case (80 Cal., 530), but held that in those cases it did not appear that the water companies had become subject to the public use declared by the Constitution (p. 330). As to this it is sufficient to say that the Supreme Court of California has since held that those cases did present the question as to the right of a company charged with such public use to enter into such contracts, and that in those cases the company was charged with a public use (129 Cal., 437).

(b) He next refers to a decision under the Constitution of Colorado which declared all unappropriated water "to be the property of the public." As we shall show hereafter all the decisions have since pointed out that there is no such provision in the Constitution of California. (129 Cal., 445-6; 90 Fed., 170 (C. C. A.); 4 Idaho, 773.)

(c) The court also refers to a decision of the Colorado court to the effect that under the Constitution of Colorado, the water company is not the "proprietor" of the water. Suffice it to say that it is held that

under the law of California it is the proprietor of the water.

Thayer vs. Cal. Development Co., 164 Cal. 117.

(d) It also clearly appears that the question of the right of such a company to contract as to rates was not in fact involved; and this is made clear by the decision of this court reviewing that decision in

9. *Osborne vs. San Diego L. & T. Co.*, 178 U. S. 22, 20 Sup. Ct. 860, 44 L. Ed. 961.

The decision in that case was by Mr. Justice McKenna, who naturally was particularly familiar with conditions in California. After referring to the contracts between the company and the consumer, he said:

> "It is apparent that the contracts in all things substantial to the controversy are similar. They provide for the payment of a certain sum for land and water rights, or for water rights alone, and all for the payment of annual rates besides. And provide directly or by reference that the annual rates shall 'be fixed by the party of the first part (the company), as allowed by law,' to be paid whether the water is used or not. Water used for domestic purposes is also to be paid for 'at the rates fixed by the party of the first part and allowed by law.'
>
> "These provisions do not leave much room for construction. For irrigation purposes and for domestic purposes the rental of water is to be paid at rates 'fixed' by the company. The only qualification is 'as allowed by law.' What this means we shall presently consider; but whatever it means, it does not sustain appellants' contention that the rate of $3.50 per acre per annum was irrevocable, secured to them free from the power of variation by the company or by law. *It is not important to consider, therefore, whether*

under the Constitution and laws of the state, they could contract with the company for the price of a water right. If the contract, they plead, gives to the company the power to fix the annual rate, the only inquiry which need be, is whether the power has been exercised 'as allowed by law.' What this means can be the only controversy."

The court then proceeded to hold that in the absence of action by the public authorities the rates might be established by the company. It will thus be seen that this court did not pass upon the power of the company to enter into special contracts respecting rates. (It should be noted in this connection that the syllabus of this case in 178 U. S. 22 is erroneous in this particular, while the syllabi in 20 Sup. Ct. and 44 Law Ed. are correct (see *San Diego Flume Co. vs. Souther*, 104 Fed. 706, 708).

10. *San Diego Flume Co. vs. Souther*, 90 Fed. 164. (C. C. A.)

The decision of Judge Ross having cast a doubt upon the validity of numerous contracts fixing the terms upon which water might be received, the matter was carried to the United States Circuit Court of Appeals in the above case. In that case the views of Judge Ross were strongly impressed upon the court, then composed of Judges Gilbert, Morrow and Hawley, but after full consideration the court rejected his view of the law and adopted the view of the Supreme Court of California that such contracts were valid and binding. The following points in the decision should be particularly noted:

(a) The court held that the decision of the Supreme Court of the state as to the meaning and effect of the State Constitution was binding upon the Federal Courts, saying:

"It becomes necessary at the outset to inquire what interpretation has been given to these provisions of the laws of California by the Supreme Court of that state. If it has become the settled law of the state that such contracts may be made and enforced by water compaaies and the consumers of water, the federal courts are bound to adopt the construction so established. *Burgess vs. Seligman*, 107 U. S. 20, 2 Sup. Ct. 10; *Gage vs. Pumpelly*, 115 U. S. 454, 6 Sup. Ct. 136; *Norton vs. Shelby Co.*, 118 U. S. 425, 6 Sup. Ct. 1121. In *Claiborne Co. vs. Brooks*, 111 U. S. 400-410, 4 Sup. Ct. 494, Mr. Justice Bradley said:

"'It is undoubtedly a question of local policy with each state what shall be the extent and character of the powers which its various political and municipal organizations shall possess, and the settled decisions of its highest court on this subject will be regarded as authoritative by the courts of the United States, for it is a question that relates to the internal constitution of the body politic of the state.'"

(b) The court then held that the decisions of the State Court in the *Rowell* case (80 Cal. 114), *Dunbar* case (80 Cal. 530), the *Chase* case (87 Cal. 561) and *Clyne* case (100 Cal. 310) did pass upon and decide the question contrary to the decision of Judge Ross.

(c) The court held that the mere fact that the water was impressed with a public use did not make it public property, saying:

"Corporations engaged in the business of furnishing water for irrigation, under the laws of California, whether they acquire the water by appropriation of the waters of the state or otherwise, are private corporations. They are nowhere declared to be public corporations or quasi public.

They conduct their business for private gain. For reasons affecting the public welfare, they are given the right of eminent domain, and, in order that the use of the water may be fairly and equitably adjusted to consumers and their rights protected under the constitution, it is provided that in a certain contingency the rate to be paid by the consumer may be fixed in a manner prescribed by law. The use is public only to the extent that the corporation may be compelled to furnish the water, provided it has the capacity to do so, to all who receive and pay for the same, and that the rule of compensation shall be fixed by the law in case the parties cannot agree."

(d) The court also referred to the Colorado cases, decided under the peculiar provisions of the Colorado constitution and held that they were not authority for the decision of Judge Ross under the constitution of California.

(e) It is only proper to call attention to the fact that Judge Morrow, who decided the case at bar, was then a member of the Circuit Court of Appeals and apparently concurred in the decision.

11. *Fresno Canal Co. vs. Park*, 129 Cal. 437.

The parties vitally interested in this matter also took it again before the State Supreme Court in the above case and after most careful consideration that court reached the conclusion that such contracts were valid, and that the constitutional provisions had no such effect as that attributed to them by Judge Ross.

In that case the predecessor in interest of defendant had entered into an agreement with the plaintiff by which the plaintiff agreed to furnish water from its canal for a certain sum of money for a certain number of years, and the predecessor in interest of defendant agreed to pay an annual sum of money therefor, and

the covenants of the agreement were declared to run with and bind the land in question. The suit was brought to recover the annual charge and to enforce payment against the land in question. The court called attention to the fact that this contract had been upheld in previous cases, but it was claimed that the contract was forbidden by the constitution of 1879, or, to use the language of the court:

> "It is contended, however, that those cases should not be considered of any value as authorities, here, because in all of the said cases the court had entirely overlooked or forgotten prominent provisions of the constitution now called to our attention and the learned counsel of the parties opposed to the present respondent in those cases failed, through dimness of mental vision, to see and call attention to the conspicuous wall of the constitution behind which, according to appellant's contention, they could have safely put their client. It would be remarkable indeed if, during the consideration of all of these various cases, and down to 1898, the thought never suggested itself to either court or counsel that the novel and notable provisions of the constitution about water now relied upon could be invoked as defenses to those actions; but, as such thing is barely possible, we will give the question an independent investigation."

After referring to section 1 of article XIV of the constitution, the court said:

> "Now, there is nothing in the said first clause of section 1 above quoted which in itself at all affects the validity of the contract in question in the case at bar. The clause merely declares that the use of water appropriated for distribution, etc., is a public use, and that the state may by law regulate it."

Referring then to section 2, the court said:

> "Whatever right a ditch owner had to sell and distribute water at the time the constitution was adopted or afterward was not destroyed because it was called in the constitution a franchise."

Referring to the second clause of section 2, the court said:

> "This contention rests on the proposition that when the constitution was adopted in 1879 it immediately prohibited the owner of a water ditch from selling any water or making any contract about furnishing water or collecting any rentals therefor until the legislature should enact the statute expressly conferring power to do these things, *and further that the constitution gave the legislature power by inaction to destroy all property in ditches and water rights used for the distribution and sale of water. This proposition cannot be maintained.*"

The opinion is too long for quotation, but there is no question but that that case gives a final interpretation to the constitutional provisions in question which are binding upon this court, whether they are in accordance with the views of Judge Ross or not, and that decision has been repeatedly affirmed by the Supreme Court of the state. There is another matter connected with it in particular which should be noted, namely, that even if the constitution had attempted to confiscate these water rights, and had intended to expressly provide that no return could be allowed thereon, such a constitutional provision would have been invalid under the federal constitution. On this subject the court said:

> "Is it possible that the constitution intended to practically destroy or confiscate all this immense property or to allow the legislature to do it? It could not have accomplished this result within the principles of the federal constitution and it is not to be held that it intended to do so unless the language of the constitution which it constructed leaves no doubt on the subject."

The court also referred to the Colorado cases and said:

> "But the latter are, we think, mainly founded upon the provision of the constitution of Colorado, *materially different from the provisions of our constitution on the subject*, which declares that the water of all natural streams not theretofore appropriated, is the property of the public."

The court also called attention to the decision of the United States Circuit Court of Appeals in the *Souther* case (in which a rehearing had been granted to await the decision of the state court) and gave the opinion in that case its approval.

The Circuit Court of Appeals subsequently rendered another opinion on rehearing, reported in

12. *San Diego Flume Co. vs. Souther*, 104 Fed. 707, in which that court reaffirmed its previous decision, and approved the decision of the state court in the *Park* case, which it also held to be binding upon the court.

13. The *Souther* case then went back to Judge Ross for further proceedings and he called attention to the fact that his views on the subject had been disapproved by the Circuit Court of Appeals and then proceeded to give effect to the decision of that court. See

Souther vs. San Diego Flume Co., 112 Fed. 228.

14. This was in 1901 and the bar felt that at last this annoying proposition had been settled and that Judge Ross had acquiesced in the conclusion reached. But in 1904 the Circuit Court of Appeals was composed of Judges Ross, Gilbert and Hawley and an opinion was rendered by Judge Ross in the case of

Boise City I. & L. Co. vs. Clark, 131 Fed. 414.

That case involved the validity of a rate fixed by public authority, and it appeared that the company was supplying water to certain consumers at rates less than those fixed by the ordinance which was attacked. The result was insufficient revenue, while the revenue would have been sufficient if the rates applied equally to all its consumers. The court thereupon properly held (as stated in the syllabus):

> "An irrigation company appropriating water for sale has no authority to make a distinction between its consumers, and, while supplying some with water under private contracts at low rates, attack the validity of maximum rates fixed by the county commissioners under the statute on the ground that, as applied to its other consumers, they will not yield a reasonable return on its investment, but will amount to a taking of its property without compensation. In determining the reasonableness of such rates, they must be considered as applicable to all its consumers."

There can be no doubt of the correctness of this decision, but in his opinion Judge Ross used certain language which it is now claimed re-asserted his early views as Circuit Judge which had been repudiated by the Court of appeals and the Supreme Court of California. Judge Ross may have unconsciously done so, but it is difficult to believe that he intended to have Judges Gilbert and Hawley, who concurred in the

Souther case only four years before, overrule that case without even referring to it, and at the same time disregard the decision in the *Park* case, which they had held was legally binding upon them. All that they could have intended to decide was that no contract could affect the right of the state to establish maximum rates, and so far as it affected the right of the state in that regard it must be disregarded and to that extent was void. It is unnecessary to consider how far a contract is affected by a subsequent ordinance fixing a different rate, and certainly the decision that the contract should be disregarded in determining the validity of the ordinance was correct. But if it was intended to revert to the position that such contracts are forbidden by the constitution, that the company does not own the water, that it belongs to the public, who need make no compensation therefor, and that the company can enter into no contract respecting the same—all we need say is that the decision is contrary to the decision of the state court as to the effect of the state constitution, which decision is properly held to be binding upon the federal courts.

15. *Stanislaus Water Co. vs. Bachman*, 152 Cal. 716.

The decision last referred to at least had the effect of encouraging the parties interested to reopen the entire matter before the Supreme Court of the state, which was done in the case above named. In that case a water company entered into a contract with the land owner to supply him with water at a fixed sum for the period of twenty years. Subsequently the company established a higher rate and sought to enforce its payment. In holding that the contract was valid and binding on the company, the court said:

> "The appellant suggests that under the provisions of article XIV of the constitution, adopted in 1879, the use of water appropriated for sale,

rental, or distribution is a public use, the regulation and control of which, including the right to collect compensation for such use, is vested in the state, and that, by reason of these provisions, the making of a contract whereby one citizen is given the exclusive right to a part of such water, or by which it is set apart to a particular tract of land, at a rate fixed in the agreement, would destroy the control of the state and convert the public use into private property.

"*If the water-right of the Stanislaus and San Joaquin Water Company was in private ownership and use at the time the constitution of 1879 was adopted, we do not see how it could become dedicated to public use by the adoption of the constitution, or at all, except by consent, express or implied, of its owners.* The record does not show whether it was acquired before or after that date.

"But if it is conceded that the water-right has become subject to public use in the sense in which that term is used in the constitution, we do not think that any violation of the constitution appears. The constitutional provision was not intended to prevent a land owner from acquiring and attaching to his land a right to the permanent use of water for its irrigation. If the right to the use of water for that purpose cannot be made permanent, but is subject to change or termination at the hands of the public authorities under the guise of regulation and control, then such use would be of little value. Water for irrigation is not ordinarily used for annual crops for which the place of use can be changed from year to year, perhaps without serious injury, but for trees, vines and alfalfa, which must be given water each year for a series of years, to be successfully grown at all. To make land valuable for such use, it must have the right to a permanent and continuous use of water. The constitutional pro-

vision was not intended to prevent this. The purpose was to foster and encourage such industries, rather than hamper and obstruct them by destructive limitations upon the right of acquiring private property. Permanent rights to the use of water for irrigation may still be obtained by contract, notwithstanding the provisions of the constitution, subject only to the condition that the state may, if it chooses to do so, regulate and control the use. This question was fully considered and decided in *Fresno C. & I. Co. vs. Park*, 129 Cal. 443 (62 Pac. 87), and we refer to that case for a full discussion of the subject. How far the state can go in the regulation and control of the use when thus secured by private contract it is not necessary here to decide. The legislature had delegated the power of control and regulation of waters outside of cities, to the boards of supervisors of the respective counties. (Stats. 1885, p. 95; Stats. 1897, p. 49; Stats. 1901, p. 80.) It does not appear that there has been any attempt to regulate or control the use of water in Stanislaus county, and, consequently, the terms of the contract remain in full force and constitute the measure of the rights of the parties. (*Fresno C. & I. Co. vs. Park*, 129 Cal. 443 (62 Pac. 87).) And under the present statute the contract rights prevail in all cases, the boards of supervisors being powerless to affect or interfere with them. (Stats. 1897, p. 49.)

16. *Leavitt vs. Lassen Irrigation Co.*, 157 Cal. 82;

Lassen Irrigation Co. vs. Leavitt, 157 Cal. 94.

We do not feel that these cases have any bearing on the subject under discussion, but as they have been relied upon as overruling the decision in the *Park* case (approved in the *Bachman* case), we will briefly refer to them. The decision in those cases was simply

that a water company could not give any person a private preferential right to water superior to the rights of the public. No criticism can be made of this decision. In reaching this conclusion the court said:

"The fundamental and all important proposition, then, is this, that a public service water company which is appropriating water under the constitution of 1879, for purposes of rental, distribution, and sale, cannot confer upon a consumer any preferential right to the use of any part of its water. Even before the adoption of the constitution of 1879 and its declaration therein contained (art. XIV, sec. 1) it was said by this court in *Price vs. Riverside L. & I. Co.*, 56 Cal. 431:

" 'Every corporation deriving its being from the act above cited, has impressed upon it a public trust, the duty of furnishing water, if water it has, to all who come within the class or community for whose alleged benefit it has been created.' In *McCrary vs. Beaudry*, 67 Cal. 120 (7 Pac. 264), is contained the first statement of this court in construction of the constitutional provision: 'Whenever water is appropriated for distribution and sale, the public has a right to use it, that is, each member of the community, by paying the rate fixed for supplying it, has a right to use a reasonable quantity of it, in a reasonable manner.' And in the late case of *Hildreth vs. Montecito Creek Water Co.*, 139 Cal. 22 (72 Pac. 395), it was said by Mr. Justice Shaw, speaking for the court in bank, in defining the public use declared by the constitution: 'In the case of a public use, the beneficiaries do not possess rights to the waters which are, in the ordinary sense, private property. A public use "must be for the general public, or some portion of it, and not a use or for particular individuals, or for the benefit of certain estates." (*McQuillen vs. Hatton*, 42 Ohio St. 202.) "The use and benefit must be

in common, not to particular individuals or estates." (*Lewis on Eminent Domain*, sec. 161; *Coster vs. Tide Water Co.*, 18 N. J. Eq. 68; *Pocantico Co. vs. Bird*, 130 N. Y. 259 (29 N. E. 246); *Gilmer vs. Lime Point*, 18 Cal. 251; *McFadden vs. County of Los Angeles*, 74 Cal. 571 (16 Pac. 397).) The right of an individual to a public use of water is in the nature of a public right possessed by reason of his *status* as a person of the class for whose benefit the water is appropriated or dedicated. All who enter the class may demand the use of the water, regardless of whether they have previously enjoyed it or not.' The principle receives universal recognition, says the Supreme Court of Indiana, in *State ex rel. Wood vs. Consumers' Gas Trust Co.*, 157 Ind. 345 (61 N. E. 674, 55 L. R. A. 245): 'No statute has been deemed necessary to aid the courts in holding that, when a person or company undertakes to supply a demand which is affected by a public interest, it must supply all alike who are like situated, and not discriminate in favor of nor against any.' (45 Cent. L. J., p. 278; *Haugen vs. Albina L. & W. Co.*, 21 Or. 411 (14 L. R. A. 424, 28 Pac. 244); *Olmstead vs. Morris Aqueduct*, 47 N. J. L. 311; *Commonwealth vs. Wilkes Barre Gas Co.*, 2 Kulp (Pa.) 499; *Chicago & N. W. R. Co. vs. People*, 56 Ill. 365 (8 Am. Rep. 690); *Nebraska Telephone Co. vs. State*, 55 Neb. 627, 634 (45 L. R. A. 113, 76 N. W. 191); *Watauga Water Co. vs. Wolfe*, 99 Tenn. 429 (6 Am. St. Rep. 841, 41 S. W. 1060); *State vs. Delaware L. & W. R. Co.*, 48 N. J. L. 55 (57 Am. Rep. 453, 2 Atl. 803).

"All are equally entitled to share in the use of the water who pay, or offer to pay, the legal rate and to abide by the reasonable rules and regulations of the company. *It does not follow that a water company may not make specific contracts*

with individual consumers which are within the purview of the constitution and within valid legislative enactments regulating the public use. This is precisely as decided by *Fresno Canal Co. vs. Park*, 129 Cal. 437 (62 Pac. 87). But, as decided in *Crow vs. San Joaquin Irr. Co.*, 130 Cal. 309 (62 Pac. 562, 1058), immediately following the *Park* case, such a contract, even if violated by the consumer, could not operate to deprive him of his constitutional right to the water furnished by the public service corporation upon tender to it of the legal rate. For the breach of the consumer's contract, the water company must seek other redress than that of depriving the consumer of his share of the supply. The language of this court in *Stanislaus Water Co. vs. Bachman*, 152 Cal. 716 (93 Pac. 858), must be construed in the light of the facts there presented. The court was there considering the claim of a water company to the right to collect rates in excess of those fixed by a contract made with its predecessor, its claim being in part founded on the theory that by a foreclosure sale it had acquired the water and distributing system free from that contract. The opinion, in the main, goes upon the theory that the water in control of the company was not subject to a public use, and upon that theory it was held that the contract to furnish water to Bachman's land attached the water-right to it as an appurtenance, with the right to receive water from the previous owner of the system and its successors at the contract rates. The company made the additional argument that the water was in fact devoted to public use, that if it could be thus attached to land as an appurtenance the property dedicated to public use would be converted into private property, and that, as this could not be permitted, the contract was against public policy and void, so far as it at-

tempted to create the appurtenance or fix rates. This argument is not fully stated in the opinion. *In answer to the argument the court cited the case of Fresno, etc., Co. vs. Park, 129 Cal. 437 (62 Pac. 87), and declared that the constitutional provision regarding water devoted to public use did not prevent a water company from making a contract giving to a particular tract of land the right to receive water for permanent and continuous use for irrigation*, subject to the condition that the public authorities could regulate and control the use. Such a contract disposing of water devoted to public use of course would not technically attach it to the land as an appurtenance. It would do nothing more than bring the land within the territory to which the public use extended, and establish its status as land permanently entitled to share in the public use. It did not appear in that case that any public regulation had been made and the contract controlled the rights of the parties. It was, therefore, immaterial, so far as the right to collect the rates in controversy in that case was concerned, whether the water-right was appurtenant to the land as private property or whether the land was entitled to a part of the water as a sharer in the public use, where public rates had not been fixed and private contracts controlled. This is the essence of the decision and it does not conflict with *Hildreth vs. Montecito Creek Water Co.*, 139 Cal. 22 (72 Pac. 395), or any other cases on the subject of public use."

We do not feel that any comment is necessary on this language, as it is clear that it in no way changes the previous decisions of the court as to the meaning of this constitutional provision.

17. *Imperial Water Co. vs. Holabird*, 197 Fed. 4.

The latest case on the subject by the federal courts is the above cited case. In that case the California Development Company, having been incorporated for the purpose of appropriating certain water of the Colorado River, formed a number of subsidiary companies whose corporate object was to furnish water to their stockholders for the irrigation of certain lands. In consideration of the agreement of the California Development Co. to furnish certain water to the subsidiary companies, they agreed that the former company should be entitled to sell the entire capital stock of the subsidiary companies. By this means the former company was enabled to fix the price at which each stockholder should receive water. The Circuit Court of Appeals, to which the validity of this contract was submitted, was composed of Judges Ross, Morrow and Gilbert. The two former held the contract invalid, while Judge Gilbert dissented, holding it valid. We do not intend to review at length the two opinions rendered in that case, but submit them to the consideration of the court so far as they are applicable to the question involved in the case at bar. Suffice it to say that within a few days after this decision was rendered the Supreme Court of California rendered a decision in a case involving the same transaction and holding that the California Development Company was not a public service corporation, that the subsidiary companies were formed to furnish water to their stockholders only, and no one else could demand water. Clearly, therefore, the corporation might sell the stock for such prices as it saw fit. The case referred to is

18. *Thayer vs. Cal. Development Company*, 164 Cal. 117.

In that case the court used some language supporting our claim as to the meaning of the constitutional provision here involved. For instance, as to the dif-

ference between the "appropriation" of water and the appropriation to public use, the court said:

> "Under the law of this state as established at the beginning, the water right which a person gains by diversion from a stream for a beneficial use is a private right, a right subject to ownership and disposition by him, as in the case of other private property. All the decisions recognize it as such. Many of them refer to it in terms which can have no other meaning than that the right is private property. We need not cite them all. The following early cases sufficiently establish the proposition: *Eddy vs. Simpson*, 3 Cal. 251; *Irwin vs. Phillips*, 5 Cal. 146; *Tartar vs. Spring Creek Co.*, 5 Cal. 398; *Conger vs. Weaver*, 6 Cal. 557; *Hoffman vs. Stone*, 7 Cal. 49; *Macris vs. Bicknell*, 7 Cal. 262; *Hill vs. King*, 8 Cal. 336; *Kimball vs. Gearhart*, 12 Cal. 47; *Oatman vs. Dickson*, 13 Cal. 38; *Kidd vs. Laird*, 15 Cal. 180; *Rupley vs. Welch*, 23 Cal. 455.
>
> "By the act of congress of July 1, 1866, the United States confirmed all water rights then vested in streams upon the public domain in California, and provided for the acquisition of similar rights therein in the future. These, of course, became private property when so acquired. (*DeNecochea vs. Curtis*, 80 Cal. 397; *Natoma Water, etc.* Co. vs. Hancock, 101 Cal. 42.)
>
> "The Civil Code of 1872 recognizes and declares the same doctrine and prescribes the mode by which water rights may be gained and protected. Section 1410 declares that 'the right to the use of running water' of a stream, canyon or ravine 'may be acquired by appropriation.' The succeeding sections, to 1422 inclusive, prescribe the mode by which it may be acquired. *The language plainly imports that the right, when acquired, is the property of the person who claims it and*

takes the steps prescribed to gain it. And, generally, it is true that, even when property is dedicated or appropriated to public use for gain by persons or private corporations, the title and ownership is private and the only interest of the public is that of beneficiaries of the use or trust. The property does not become impressed with a public use or trust until after the owner has first acquired it and then dedicated it to the use. The acts of acquisition and of dedication, respectively, are distinct from each other. Technically, the latter must follow the former and cannot precede or accompany it.

"An 'appropriation of water' under the code is, therefore, not, ipso facto, a dedication or appropriation to public use. The additional act of dedication is as necessary to the creation of a public use in a water right so acquired as it would be if the right was acquired by conveyance or in any other manner, or as in the case of any other property dedicated to public use."

It clearly results from this that the company is the owner of the water which it appropriates, and being the owner when it devotes or appropriates that property to a public use it is entitled to a return on the value thereof.

19. *Wilterding vs. Green* (Idaho), 45 Pac. 134.

This case arose under the constitution of Idaho, which is identical with the constitution of California. The court was urged to adopt the view expressed by the Supreme court of Colorado in the case of *Wheeler vs. Irrigation Co.*, 10 Colo. 582, 17 Pac. 487, that under the constitution of Colorado the company is not the "proprietor" of the water appropriated by it. But the court refused to adopt that view of the law and said:

"The marked distinction between the provisions of the constitution of Colorado and that of Idaho

will be apparent upon a very slight inspection of the two. The Colorado constitution is prospective. It makes provision and lays down rules that 'The water of every natural stream not heretofore appropriated within the State of Colorado, is hereby declared to be the property of the public,' etc. Prior to the adoption of this constitutional provision, the right of private persons to acquire property in natural streams through appropriation had been recognized in Colorado as it had throughout the Pacific coast; but the character of this right was changed by the constitutional provisions above quoted, and thereafter the water of such streams became and was 'the property of the public.' Compare section 5 of article 16 of the constitution of Colorado with section 1 of article 15 of the Idaho constitution, which is as follows: 'The use of all waters now appropriated, or that may hereafter be appropriated for sale, rental, or distribution, also of all water originally appropriated for private use, but which after such appropriation has heretofore been, or may hereafter be, sold, rented or distributed, is hereby declared to be a public use, and subject to the regulation and control of the state in the manner prescribed by law.' The distinction between the two provisions, it seems to me, is too palpable to require elucidation or warrant discussion. The Colorado constitutional provision recognizes the previous existence of private property rights in the water of natural streams, but prohibits the acquisition of such rights in the future. The Idaho constitution does not pretend or assume to control or interfere with private property rights in such waters, but declares the use of all such waters, whether theretofore or thereafter appropriated, a public use, and under the control of the state. The doctrine of the Colorado court, that the canal or ditch owner is a mere 'common carrier' could

not, certainly, be predicated upon the provisions of the Idaho constitution. That it was the purpose and intention of the Idaho constitution to deal only with the 'use' of water, and not with the property rights of appropriators therein, is, I think, further evidenced by the including within its provisions 'all water originally appropriated for private use, but which after such appropriation has heretofore been or may hereafter be sold, rented, or distributed.' *The sale, renting, and distributing of the water is a dedication, and brings its use under the control of the state, but it in no sense destroys or abrogates the property rights of the appropriator therein.*"

THE ACT OF 1885 CONTEMPLATES THAT WATER RIGHTS ARE TO BE CONSIDERED AS PART OF THE CAPITAL OF THE COMPANY ON WHICH IT IS ENTITLED TO A RETURN.

"Said Board of Supervisors, in fixing such rates, shall, as near as may be, so adjust them that the net annual receipts and profits thereof to the said persons, companies, associations, and corporations so furnishing such water to such inhabitants shall not be less than six or more than eighteen per cent. upon the said value of the canals, ditches, flumes, chutes, and all other property actually used and useful to the appropriation and furnishing of such water to each of such persons, companies, associations, and corporations; but in estimating such net receipts and profits, the cost of any extensions, enlargements, or other permanent improvement of such *WATER RIGHTS* or water works shall not be included as part of said expense of management, repairs and operating of such works, *but when accomplished, may and shall be included in the present cost and cash value of such work.*"

(Stats. of Cal. 1885, p. 95, Sec. 5.)

THE STATE LEGISLATURE HAS ALSO RECOGNIZED THE VALIDITY OF CONTRACTS FOR THE SALE, RENTAL AND DISTRIBUTION OF WATER.

In 1897 a new section was added to the act of 1885 to read as follows:

> "Nothing in this act contained shall be construed to prohibit or invalidate any contract already made, or which shall hereafter be made, by or with any of the persons, companies, associations, or corporations, described in section two of this act, relating to the sale, rental, or distribution of water, or to the sale or rental of easements and servitudes of the right to the flow and use of water; nor to prohibit or interfere with the vesting of rights under any such contract."
>
> (Stats. of Cal. 1897, p. 49.)

In 1901 the legislature passed the following act on the subject:

> "It is and shall be lawful for any person, company, association, or corporation, furnishing for sale, rental or distribution any appropriated waters for purpose of irrigation, to enter into contracts with individual consumers, relating to the sale, rental, or distribution of such water, or any thereof which contracts, subject to the restrictions hereinafter declared, shall be valid to all intents and purposes, any law or rule to the contrary notwithstanding.
>
> "No such contract shall provide for the sale, rental, or distribution of any such water at any rate exceeding the established rates fixed and regulated therefor by the board of supervisors of the proper counties, or fixed and established by such person, company, association, or corporation, as provided by law.
>
> "Nothing in this act contained shall be construed to authorize or make valid any contract not made

for a valuable consideration; but an agreement on the part of such person, company, association, or corporation to sell, rent, or distribute any water to a consumer without payment in advance therefor, or upon any other terms to which such consumer is not otherwise lawfully entitled, shall be deemed and taken to be a valuable and sufficient consideration for such contract.

"Nothing in this act contained shall affect any contract made prior to the time that the board of supervisors fix and establish the rates and regulations for and under which water shall be sold and supplied."

(Stats. of Cal. 1901, p. 331.)

THE RAILROAD COMMISSION OF CALIFORNIA, THE SUPREME RATE FIXING TRIBUNAL IN THE STATE, HAS ADOPTED OUR VIEW OF THE MEANING AND EFFECT OF THESE CONSTITUTIONAL PROVISIONS.

In 1911 the people of California amended the state constitution, making the State Railroad Commission a general Public Utilities Commission having general control of rates of all public utilities, including water companies. (Const. of Cal., Art. XII, Sec. 23, Stats. 1911, p. 2048.) For the purpose of enforcing this amendment an elaborate Public Utilities Act was passed (Stats. of Cal. 1911, Extra Session, p. 18).

Its opinion on any question involving the correct basis of rates and the true relation of the public utility to the public is deserving of great weight. With full knowledge that the view that the waters appropriated by the company are "public property," and the view that the company is not the "proprietor" thereof, and the view that the water appropriated is vested in the land owners, and the view that the provision of the constitution of Colorado is the same as that

of California—well knowing that such views would deprive the company of any return on its "water rights," while the contrary view would entitle it to such return, that commission adopted our view on all of these matters.

Tyndale Palmer vs. Southern Cal. Mountain Water Co., Decision No. 418, decided January 21, 1913.

We quote the following from that decision:

"Much of the confusion which is found in the irrigation law of this state is due, in my opinion, to a failure on the part of those interpreting the law to understand certain fundamental distinctions between water devoted to private purposes and water devoted to public uses. Article XIV, sections 1 and 2, of the constitution deal not with the appropriation of water, but with the power of the state to regulate agencies impressed with a public use. Those sections of the constitution deal entirely and solely with water, or more properly the use of water appropriated at the time the constitution was adopted or thereafter appropriated 'for sale, rental or distribution,' and it has been held and is the settled doctrine of this state, that the power of the state to regulate such companies is entirely independent of the method of acquisition by them of water. *Merrill vs. Southside Irrigation Company*, 112 Cal. 427. It matters not whether the person or corporation selling water to the public appropriates it (and here I use 'appropriates' in an entirely different sense from that in which it is used in the case just cited) from the public waters of the state, or the United States; bores wells on private lands and pumps the water into ditches; purchases all the riparian rights in a stream and diverts the water by reason of riparian ownership of lands

and the lack of any one who has the legal right to complain; or takes it from the sewers of a city. In every case the constitutional provision applies and the devotion of the water to the public purposes of sale, rental or distribution impresses the agency with the character which subjects it to regulation by the state. Sections 1410 to 1422, inclusive, of the Civil Code deal with another aspect of the water question, namely, the method of acquiring rights to unappropriated water. The agency desiring to take water, the right to the use of which has not yet been acquired by other agencies, has prescribed for it in these sections one method of acquiring the right, and this method is the same whether the agency desires to divert the water and put it upon private lands owned by itself or devote it to the public uses of sale, rental or distribution to the public or some part thereof. *It has always been difficult for me to understand how such almost hopeless confusion could have been the result of these plain provisions of the constitution and the statutes, provisions so utterly unrelated; but we find law writers and courts saying that the waters of the state belong to the public (as they do by the constitutional provisions in some other western states) by reason of the two sections of article XIV of the constitution, which do not remotely bear upon the subject and only make the agency which has by any means lawfully acquired the right to be in control of a quantity of water subject to regulation when such agency sells, rents or distributes such water to the public or a portion thereof.*

* * * * * * * * * * * *

"Article XIV of the constitution merely makes certain agencies subject to regulation. The manner of regulation is that which shall be prescribed

by law. The legislature thereafter passed certain statutes prescribing the method and extent of regulation. (Stat. 1885, p. 95, Public Utilities Act, Stat. 1911, p. 18, Extra Session.) Except as restricted by the constitution the legislature may prescribe whatever regulation it sees fit, *but legislation pursuant to said constitutional provision could not properly deal with the method of acquisition of the water by the agencies therein made subject to regulation, the public use and the power to regulate attaching as a result of the devotion of the water to purposes of sale, rental and distribution, and having no reference whatsoever to anything else.* The sections of the Civil Code on the other hand (1410 to 1422) dealing, as they do, entirely with methods of *acquisition* of water and not its *distribution*, are founded on entirely different fundamental powers of the state and have no more effect upon the agencies dealt with in article XIV of the constitution than they do upon railroads or gas corporations, except as they may or may not be involved in the acquisition of a supply of water which may or may not be used in a way which subjects the possessor to regulation prescribed in the article of the constitution. In short, the law dealing with acquiring rights to water by individuals or corporations is not concerned in the least with what such persons or corporations do with such water, *while the law dealing with the public distribution of water and the agencies engaged therein is equally disinterested in and oblivious to the subject of acquisition of water.*"

AS A MATTER OF LAW THE COMPLAINANT IS ENTITLED TO A REASONABLE RETURN UPON THE VALUE OF ITS WATER RIGHT.

The right of the complainant to have a return upon the value of its water right can be justified from four separate and distinct standpoints: First, by considering the water right as a distinct and separate right of property owned by the complainant; second, by considering the water right as increasing the value of the company's franchise, which is a separate and distinct species of property owned by the company upon which it is entitled to a return; third, by considering the water right as adding to and increasing the value of the tangible property and works of the company over and above the mere replacement cost of the same—the water obtained by virtue of the rights acquired and owned being tangible property; fourth, by considering the water as adding to the value of the company's property as a "going concern." We will briefly consider each of these points of view.

I.

A water right whether acquired by appropriation, purchase, prescription or condemnation is property, and the Canal Company appropriating it is the proprietor thereof.

Black's Pomeroy, Water Rights, Sections 58-61;
People vs. Elk River M. & L. Co., 107 Cal. 221;
In re Delinquent Taxes, 81 Minn. 422, 84 N. W. 302;
Strickler vs. Colorado Springs, 26 Pac. 313;
Gould on Water Rights, Sec. 324;
Bigelow vs. Draper, 6 N. Dak. 152, 69 N. W. 570;

Buffalo vs. Delaware, etc. Co., 39 N. Y. Supp. 4;
Hallock vs. Suitor, 37 Oregon 9, 60 Pac. 384;
Wyatt vs. Larimer & Weld I. Co., 1 Colo. App. 480, 29 Pac. 906;
Rigney vs. Tacoma, etc. Co., 9 Wash. 570, 38 Pac. 147;
New Whatcom vs. Fairhaven L. Co., 24 Wash. 493;
Lux vs. Haggin, 69 Cal. 255, 300;
St. Helena Water Co. vs. Forbes, 62 Cal. 182;
Gould vs. Stafford, 91 Cal. 146, 155;
Winnipiseogee Lake, etc. Co. vs. Gilford, 64 N. H. 337, 10 Atl. 849;
Amoskeag Mfg. Co. vs. Concord, 66 N. H. 562, 24 Atl. 241;
Yates vs. Milwaukee, 10 Wall. (U. S.) 497, 19 L. Ed. 984;
Paine L. Co. vs. United States, 55 Fed. 854, 867;
Sillman Timber Co. vs. Mobile, 110 Fed. 186, 192;
Union, etc. Co. vs. Brunswick, 31 Minn. 297;
Bradshaw vs. Duluth, etc. Co., 52 Minn. 59, 53 N. W. 1066, 1068;
Meyers vs. St. Louis, 8 Mo. App. 266;
Emporia vs. Soden, 25 Kan. 588.

The Canal Company may purchase water rights.

Water Supply & Storage Co. vs. Tenney, 24 Colo. 344-351;
Mud Creek, etc. Co. vs. Virian, 74 Tex. 170, 11 S. W. 1078;
North, etc. Co. vs. Utah, etc. Co., 16 Utah 346, 52 Pac. 168.

The Canal Company in appropriating water is the principal and not the agent, and owns the appropriation.

Montecito Water Co. vs. Santa Barbara, 144 Cal. 578, 592-3;
Nevada Ditch Co. vs. Bennett, 30 Or. 59, 45 Pac. 472;
Albuquerque L. & I. Co. vs. Gutierres, 10 N. M. 177, 61 Pac. 357;
Thayer vs. Cal. Dev. Co., 164 Cal. 117;
Palmer vs. Southern Cal. Mountain Water Co., R. R. Com. of Cal. Decision No. 418.

Even if the company should be considered an agent of the consumer in making the diversion, still it is not a gratuitous agent and is entitled to be compensated for the value of the property right acquired by it, and used by the consumer. This would obviously be true if the company had paid for the water right, and it is difficult to see how the rule can be different when it was enterprising enough to acquire the right before others realized the value thereof, and expended its money at the risk of not ultimately getting the right. If after it had expended its money it had been enjoined from diverting the water it would have been the loser, and having been fortunate enough to escape that danger it should have the benefit of its success.

> "The sale, renting and distributing of the water is a dedication, and brings its use under the control of the state, but it in no sense destroys or abrogates the property rights of the appropriator therein."
>
> *Wilterding vs. Green,* 4 Idaho 773, 45 Pac. 134, 138.

The state having appropriated the water of the company the rates must give a reasonable compensation therefor.

San Diego Water Co. vs. San Diego, 118 Cal. 556, 567, 558;
Spring Valley W. W. vs. San Francisco, 124 Fed. 574, 591.

II.

The right to collect rates or compensation for the use of water is a franchise, which vested in the company upon its incorporation. Disconnected with any water which the company owned and which it could sell this franchise was only of nominal value, but when the company acquired the absolute right to divert the water the franchise became a valuable property right.

"In the case at bar the appellant is a corporation, and its franchise to exist and act as such is, unquestionably, assessable only in the City and County of San Francisco. It only remains, therefore, to determine whether it owns and exercises any other franchise, connected with, or incident to, its canals and water system which is assessable in Merced county. The powers conferred by the act under which appellant was incorporated are comprehensive and important. These powers it has, admittedly, exercised and is still exercising. It was thereby clothed with power to acquire property, appropriate and distribute water, construct canals, and to establish, collect and receive rates, water rents and tolls. As an incident to the public uses and franchises it might exercise and acquire, by acceptance or otherwise, it was given the right of eminent domain as a public agent in charge of public uses and franchises. When its corporate organization was completed before it had acquired any property or done any corporate act, it held only the single corporate franchise to exist with enumerated powers. Any other franchise which was offered in the grant of powers and which by proper manifestation of acceptance or exercise of power it might acquire, was inchoate (*Stockton, etc. Co. vs. County of San Joaquin,* 148 Cal. 313). It might, at will,

accept or reject such franchise. When it accepted the offer, and had manifested such acceptance, by the construction of canals, the appropriation and distribution of water and the collection of water rents or rates, the inchoate franchise became complete. The right to collect rates or compensation for the use of its water, thus dedicated to the public use, then became existent as a separate entity or franchise, *and vested in appellant as a valuable property right.* (*Stockton, etc. Co. vs. County of San Joaquin*, 148 Cal. 313.)"

San Joaquin, etc. Co. vs. County of Merced, 2 Cal. App. 593, 599.

"It is, however, earnestly contended for the state that such a *franchise* is a mere license or privilege enjoyable during the life of the grantee only, and revocable at the will of the state. We believe this proposition to be not only repugnant to justice and reason, but contrary to the uniform course of authority in this country. The laws of this state have made such interests taxable, inheritable, alienable, subject to levy and sale under execution, to condemnation under the exercise of the right of eminent domain, *and invested them with the attributes of property generally.*"

People vs. O'Brien, 111 N. Y. 1, 41.

"The bridge structure, the stone, iron and wood, was but a portion of the property owned by the bridge company, and taken by the county. There were the *franchises* of the company, including the right to take toll, and these were as effectually taken as was the bridge itself. Hence, to measure the damages by the mere cost of building the bridge would be to deprive the company of any compensation for the destruction of the *franchises.* The latter can no more be taken without compensation than can its tangible property."

Montgomery Co. vs. Schuylkill Bridge Co., 110 Pa. 54, 58;
Monongahela Nav. Co. vs. U. S., 148 U. S. 312.

"The apparent value of the property and *franchises* used by the corporation, as represented by its stocks, bonds, and obligations, is not alone to be considered when determining the rates that may be reasonably charged."

Smyth vs. Ames, 169 U. S. 466, 544.

In *Spring Valley W. W. vs. San Francisco*, 124 Fed. 594, it is said:

"The complainant contends that an element of value in its corporate property is its franchise. Section 2 of Article 14 of the constitution of the state provides:

" 'The right to collect rates or compensation for the use of water supplied to any county, city and county, or town or the inhabitants thereof, is a franchise, and cannot be exercised except by authority of and in the manner provided by law.'

"The constitution also provides, section 1 of article 13, that all property in the state not exempt under the laws of the United States shall be taxed in proportion to its value, to be ascertained as provided by law; and franchises are declared to be property. Under the constitutional provision and the law passed to carry it into effect the complainant's franchise is taxed by the City and County of San Francisco at a valuation of $5,395,233. The defendants claim that this franchise has no element of value as property in use by the complainant in supplying water to the City and County of San Francisco and its inhabitants. This claim appears to be based upon an observation made by Mr. Justice Temple in *San Diego Water Co. vs. San Diego, supra*, that:

" 'There is no limit to the number of companies

which may bring water into the city. The franchise is freely offered to all in the constitution. If there are many companies, and thereby the cost and management is increased, this fact would not call for increased rates. The service is worth no more when rendered by ten companies than when one company furnishes all the water.'

"This observation does not appear to have been concurred in by the other members of the court, and it is doubtful if it can be accepted as disposing of the question."

The court then refers to the decision in *Monongahela Navigation Co. vs. United States,* 148 U. S. 312, and then adds:

"It is true this was a condemnation proceeding, and the question was to determine what was just compensation for the appropriation of corporate property to a public use, while the case before the court relates to the fixing of water rates, which shall be a just compensation for the appropriation of complainant's property to a public use. It is not perceived that there is any difference in the principles applicable to the two cases, and this appears to have been the view of the Supreme Court in *San Diego Water Co. vs. San Diego, supra.*"

Spring Valley W. W. vs. San Francisco, 124 Fed. 594.

"In estimating the value of the property of complainant embarked in the business, the commission reached the conclusion that the *franchises* under which it had lain mains and is delivering gas, and which are part of its property, should be considered as of no value whatever, although the state through the action of its taxing officers, has declared that they are worth several millions of dollars. * * * The reason assigned by the

commission for not including the value of the franchises is that they were granted by the people without compensation. That is so; those franchises were granted very many years ago, at a time when there seemed to have been no intelligent appreciation of the fact that they might become enormously valuable, when reckless improvidence was the rule, and all sorts of franchises were given away, without any provision for securing to the state its fair share of unearned increment thereon. Nevertheless, when the state offers a franchise to whoever will take it without requiring any money return thereon, and for the sole consideration that the taker shall promptly, continuously and fully develop it by the expenditure of his own money, and such offer is accepted, and the terms of the agreement carried out by the taker, there results a contract which, with all consideration of all proper conditions and limitations inherent in the nature of the particular contract, is as much within the protection of the constitution as in all other contracts. If the state 25 or 50 years thereafter shall say to the taker: 'We were very improvident in not providing that you should pay us something each year for this franchise; therefore, hereafter you shall pay us eight (8) per cent annually on $10,000,000 or $20,000,000, or we will evict you from the franchise,' it might find itself embarrassed by the provisions of the constitution in thus undertaking to avoid the results of its own improvidence. A franchise, whatever the value may be, which has not expired or lapsed, nor been in some way forfeited, is property in the hands of its holder. There is force in the argument that when the state says: 'We will value this property at several millions of dollars, when we tax you on it, but at nothing at all when we fix the rate you may charge for your product in order to receive an

eight (8) per cent return on your property,' it is seeking to accomplish by indirect methods what it might not be able to accomplish directly."

Consolidated Gas Co. vs. Mayer, 146 Fed. 150, 157.

Approved and followed after elaborate discussion in

Consolidated Gas Co. vs. New York, 157 Fed. 849;

Wilcox vs. Consolidated Gas Co., 212 U. S. 19, 53 L. Ed. 382.

The right of a water company to have the value of its franchise allowed was sustained and the method of arriving at that value in connection with its water rights and property was fully considered and decided in the case of

Kennebec Water Co. vs. Waterville, 97 Me. 220, 54 Atl. 6.

VALUE OF FRANCHISE.

The trial court fully appreciated the correctness of our position on this subject, but held that there was no evidence of the value of the franchise. Of course, a franchise being an incorporeal piece of property cannot be valued like other property, but its value necessarily depends upon many considerations. A canal company has two things: first, its water, and secondly, the means of carrying and distributing the same. If it should sell the water right as a whole it would obviously be entitled to receive the full value of it. If it sold the means of distribution it would receive the whole value of that. On the other hand, if the legislature grants it the right to sell not the water right but the use of the water to various members of the public, that right has the same value as the value of the property, whether the tangible property or the

intangible property, and the legislature having granted the corporation the privilege of renting the use of the water the value of that right is the value of the water itself. The existence of this franchise is admitted and the court is now in possession of the value of all of the tangible property of the company, the additional value which this water has brought to the lands under the canal, the number of acres of land irrigated, the amount such rights sell for elsewhere, and of every fact upon which any valuation of this franchise could possibly be based. Such a franchise is property for the purpose of taxation, is assessed by the county assessors, and such assessment has been upheld by the courts of the state.

San Joaquin & Kings River Canal & Irrigation Co. vs. County of Merced, 2 Cal. App. 593.

And still the trial court was entirely unable to reach a conclusion as to its value. The court has, however, held that the water rights of the company are worth $1,000,000. The owner of that water right goes to the state and gets a charter granting it the franchise to sell, rent and distribute that water to inhabitants of the state, and thereupon dedicates or devotes that property to public use in the exercise of this franchise. If it be admitted that by this process the water right as a distinct piece of property of the value of $1,000,000 ceased to exist, it must be because it is merged in the franchise, and, if so, the franchise must be as valuable as the water right was before the property was used in connection with the franchise. It is inconceivable that the right to divert water for the irrigation of one's own land is worth $1,000,000 and that the right to sell the same quantity of water for the irrigation of the lands of other people is worth nothing.

III.

The right to divert this water increased the value of the tangible property of the company to the extent of the value of the right to divert the same. The water carried in the canal is as much tangible property as the earthwork and structures.

A canal without water is absolutely useless. Its value disconnected with water or the right to water is impossible of estimation. The water in a canal is as much part of the canal as the banks and structures. The public enjoy the banks, the structures and the water itself. They are all tangible things. The rights of the canal company to the water may be disregarded and still its physical possession thereof still remains in its canals. The public may not be interested in how the company got the water or what it paid for it, but it is interested in the fact that the company has that commodity in a canal the use of which is offered to the public. If the water is deemed appurtenant to the canal does not the company own that which is appurtenant to that which it owns?

As a general proposition a conveyance of a ditch or canal will carry the *water right* which has been enjoyed by means thereof without special mention.

> *Fudickar vs. East Riverside I. Dist.*, 109 Cal. 29;
> *Lower Kings, etc. Co. vs. Kings River, etc. Co.*, 60 Cal. 408;
> *Williams vs. Harter*, 121 Cal. 47.

This is on the theory that the water is appurtenant to the ditch, but in one case the court pointed out that

> "The water right is the principal thing, and if either is appurtenant to the other, the ditch is appurtenant to the water right."

And the court also held that the water

> "does add to the value *of the ditch.*"
> *Jacob vs. Lorenz*, 98 Cal. 332, 340.

But it is not important to consider which is the principal thing and which the appurtenance; they together form one whole which in ordinary parlance is comprehended by the word canal or ditch in the same way that the word river includes the channel and also the water. The value, therefore, of this thing must include all its parts—the dam, the banks, the structures, the water. The *water* as distinguished from the abstract right to divert it, is *tangible* property as much so as the canals and structures and the company as much entitled to a return on the value of that commodity.

> "Water courses are either natural or artificial. Plaintiff's ditch was an artificial watercourse. 'A watercourse consists of bed, banks *and water.*'"
>
> *Lower Kings River, etc. Co. vs. Kings River, etc. Co.*, 60 Cal. 408.

What complainant furnishes to the public is not a *water right*, but *water*. The water when appropriated by complainant and diverted into its canals is personal property, and the *corpus* of the water becomes its property.

> "Sec. 773: *Title to the water after diversion.* After the diversion of the water from the natural stream into the ditches, canals, pipes, reservoirs, or other works of the appropriators, the title to the same changes, and the body or corpus of the water becomes the absolute property of the appropriators. Water, when collected in the works of the appropriator, and thus separated from the original source of supply, is considered his in-

dividual property, as much as the fish which might have been lawfully captured from the depths of the natural stream or the wild fowl which might have been shot or captured on its surface. In fact, it is a general principle of law that where an individual by his labor reduces to his control or use any object, animate or inanimate, which otherwise could not be brought under the control or use of man, that he acquires a right of property in such object, from which he cannot be unlawfully dispossessed. One of the most apt illustrations of this proposition used by the authorities is that of the fish and fowl. As said by Mr. Justice Field, in the Supreme Court of the United States: 'The wild fowl in the air belongs to no one, but when the fowler brings it to the earth and takes it into his possession it is his property. * * * So, when the fisherman drags by his net fish from the sea, he has property in them, of which no one is permitted to despoil him.' So it is with water. While it is flowing naturally in the channel of the stream or other source of supply, it 'is a movable, wandering thing, and must of necessity continue common by the law of Nature,' and, therefore, is nobody's property, or property common to everybody. After it has been captured, as it were, or diverted from the natural channel of the stream by an individual, and taken absolute possession of by him in the ditches, canals, reservoirs, or other receptacles constructed or prepared by his work and labor, it is as much his private property as anything else that is reduced to possession which otherwise would be lost to the uses of man. And, furthermore, this is not a rule peculiar to the Arid Region Doctrine of appropriation, but it is the universal rule under the civil law. It is also the rule under the Western doctrine of appropriation."

2 *Kinney on Irrigation and Water Rights,* Sec. 773.

IV.

The water rights owned by complainant have added to the value of its property as a "going concern" to the extent of the value of such water rights.

The complainant, beyond having the ownership of the mere physical structures, undoubtedly has the following things:

1. A priority of appropriation of water;
2. An adequate supply of water to fill its canals;
3. Available land under its canals which has been colonized and successfully farmed and which needs and demands the water;
4. Lateral ditches constructed by the owners of these lands, costing many thousands of dollars for the purpose of having the water carried from the canals to the land;
5. An assurance of a continued demand for the water, thus taking the business out of the category of a mere enterprise, and placing it on the basis of an assured financial success.

These things as a whole give to these properties owned by the company a value as part of a "going concern," which value exceeds the value of the structures based on the mere physical cost of reconstruction, and the value of property by reason of being part of a "going concern" is to be considered in fixing the rates which should be allowed.

National City W. W. Co. vs. Kansas City, 62 Fed. 843;

Gloucester Water Supply Co. vs. Gloucester, 179 Mass. 364;

Norwich Gas Co. vs. Norwich, 76 Conn. 565;

Kennebec Water Dist. vs. Waterville, 54 Atl. 19;

Venner vs. Urbana Water Works, 174 Fed. 348;

Omaha vs. Omaha Water Co., 218 U. S. 991, 54 L. Ed. 991.

In the *Omaha* case last above cited this court expressed the matter as follows:

> "The appraisers, in making their estimate of valuation, included $562,712.45 for the 'going value.' This separation of an element contributing to the value of each tangible part was done because required to be done under an order made in the circuit court in a suit in which the water board of the City of Omaha was complainant and the members of the board of appraisers and the water company were defendants. The object of that suit was to instruct the appraisers in respect to the mode and manner in which they should proceed. An order resulted which required the board to report the separate elements making up the aggregate value of the plant.
>
> "The option to purchase excluded any value on account of unexpired franchise; but it did not limit the value to the bare bones of the plant, its physical properties, such as its lands, its machinery, its water pipes or settling reservoirs, nor to what it would take to reproduce each of its physical features. The value, in equity and justice, must include whatever is contributed by the fact of the connection of the items making a complete and operating plant. The difference between a dead plant and a live one is a real value, and is independent of any franchise to go on, or any mere good will as between such a plant and its customers. That kind of good will, as suggested in *Wilcox vs. Consolidated Gas Co.*, 212 U. S. 19, 53 L. Ed. 382, 29 Sup. Ct. Rep. 192, is of little or no commercial value when the business is, as here, a natural monopoly, with which the customer must deal, whether he will or no. That there is a difference between even the cost of duplication, less depreciation, of the elements making up the water company plant, and the

commercial value of the business as a going concern, is evident. Such an allowance was upheld in *National Waterworks Co. vs. Kansas City*, 27 L. R. A. 827, 10 C. C. A. 652, 27 U. S. App. 165, 62 Fed. 853, where the opinion was by Mr. Justice Brewer. We can add nothing to the reasoning of the learned justice, and shall not try to. That case has been approved and followed in *Gloucester Water Supply Co. vs. Gloucester*, 179 Mass. 365, 60 N. E. 977, and *Norwich Gas & Electric Co. vs. Norwich*, 76 Conn. 565, 57 Atl. 746."

The increased value of this property by reason of being part of a "going concern" can be reached by the same method which we have used in fixing the value of the franchise and water right of the company.

REVIEW OF DECISION IN CASE AT BAR.

The opinion of Judge Morrow on the question under discussion in the case at bar is found in Vol. 1 of the Record, pp. 215-225. He states that the Circuit Court of Appeals in the *Souther* case, following the decision of the Supreme Court of California in the *Park* case, "held valid a contract exacting a sum of money in addition to the legally established rate for the so-called water right," and that in the *Souther* case "Judge Ross yielded to that decision," but says:

> "But in the subsequent case of *Boise City Irr. & Land Co. vs. Clarke*, 131 Fed. 415, in the Circuit Court of Appeals, Judge Ross, being then a member of the court and writing its opinion, adhered to his original opinion in the *San Diego* case in passing upon the validity of certain water right contracts."

The opinion also admits that the *Bachman* case "reaffirms the doctrine of the *Park* case," but states that

> "The question here is whether the constitution in declaring that the use of all water appropriated for sale, rental, or distribution to the public use attaches the water right to the land for which the water is appropriated."

The answer to this is that no particular land is entitled to the water: One piece of land may receive it today and another piece tomorrow. (*San Joaquin, etc., Co. vs. Stevinson*, 164 Cal. 221.) The title of the water company, although inchoate, attaches as soon as it posts its notice of appropriation or begins construction, although no individual may have yet used it, and this is a property right (*Inyo Consolidated Water Co. vs. Jess*, 161 Cal. 516). It is true that before the right becomes complete the water must be applied to a beneficial use, but the sale, rental and distribution of the water is itself a beneficial use. (*Montecito Valley Co. vs. Santa Barbara*, 144 Cal. 578, 593).

Ownership of the water by the company is the very basis of the fact that it is charged with a public duty.

> "It must be admitted that a person, natural or corporate, cannot be said to be in charge of the administration of a public use of water unless such person either owns or controls some water which is the subject of the use."
>
> *Hildreth vs. Montecito Creek Water Co.*, 139 Cal. 22, 26.

And the acquisition of title to the water precedes the dedication or appropriation of it to a public use

Thayer vs. Cal. Dev. Co., 164 Cal. 117.

RIPARIAN RIGHTS ARE WELL ESTABLISHED IN CALIFORNIA AND MUST BE EXTINGUISHED BY CANAL COMPANY.

It seems to us that the first error which the court has fallen into in discussing this question is in comparing conditions in California with conditions in a state like Colorado, where the riparian doctrine is not recognized, and therefore where the state had full authority to and had itself declared the waters to be public property. In California the right of riparian owners to the full benefit of the flow of the stream is now too well settled to require any citation of authority. In this particular case the largest riparian owner on the stream was Miller & Lux, and the evidence shows that from the earliest date Miller & Lux has always asserted its riparian rights in the waters of the streams of the State of California, and particularly of the San Joaquin river. This is not only shown by the evidence, but is also shown by the numerous decisions of the courts of the State of California, beginning with the case of *Lux vs. Haggin*, 69 Cal. 255, and continuing to the last volume of reports of the Supreme Court of California. The reports of that state are full of cases where canal companies have started an enterprise of taking water from the streams in that state, and have often spent large sums of money only to have their diversion enjoined by riparian owners. The limits of this brief will not permit of a citation of all of those cases. A few of the latest ones, however, may be of interest. For instance, in the case of *Miller & Lux vs. Madera Canal & Irrigation Company*, 155 Cal. 59, it appeared that the defendant canal company had completed a reservoir on Fresno river, one of the tributaries of the San Joaquin river, for the purpose of storing flood and storm waters of the river, and in doing so had expended over sev-

enty-five thousand dollars. Nevertheless at the suit of the plaintiffs, as riparian owners, the storage and diversion of the water was enjoined. In the latest case of *Miller vs. Bay Cities Water Co.*, 157 Cal. 256, it appeared that the defendant company had constructed most extensive works for the purpose of reservoiring the flood waters of Coyote creek for the purpose of supplying the City and County of San Francisco, and other places, with water. Many hundreds of thousands of dollars were expended in the enterprise. Nevertheless, at the suit of an owner whose property was situated over an underground water strata, which was fed and raised by the pressure of the flow of the water in Coyote creek, this storage and diversion of water was enjoined. These are only two of the illustrative cases showing the absolute insistence and the proper insistence by riparian owners that they shall not without compensation be deprived of their vested rights in the streams of the state. In fact, under the decisions in that state the riparian owner is the absolute owner of the stream as a part and parcel of his land. The state has no right, title or interest in that water, and has no right to permit its appropriation by any one, and the right of the riparian owner is a vested one, which cannot be taken away without due compensation.

RIPARIAN RIGHTS EXTINGUISHED BY CONDEMNATION.

In the case of *Lux vs. Haggin*, 69 Cal. 255, in which these rights were first definitely fixed and determined, the court, after holding that riparian rights were vested and could not be taken away without just compensation, pointed out that such rights could be condemned for the use of the public (see 69 Cal., p. 299), and the court very clearly pointed out, in language

too long for quotation, that if the legislature found it necessary to obviate any inconvenience growing out of the doctrine of riparian rights, that inconvenience to a large measure could be removed by enacting legislation permitting the condemnation of those rights for the benefit of the public.

In the case of *Miller & Lux vs. Madera Canal & Irrigation Company*, 155 Cal. 59, 64-65, the court referred to the same matter and said:

> "If the higher interests of the public should be thought to require that the water usually flowing in streams of this state should be subject to appropriation in ways that will deprive the riparian proprietor of its benefit, the change sought must be accomplished by the use of the power of eminent domain. The argument that these waters are of great value for the purposes of storage by appropriators and of small value to the lower riparian owners defeats itself. If the rights sought to be taken be of small worth the burden of paying for it will not be great. If, on the other hand, great benefits are conferred upon the riparian lands by the flow there is all the more reason why these advantages should not without compensation be taken from the owners of these lands and transferred to others."

In fact, from our study of the question of water rights in the State of California we have reached the view that in any case where the riparian doctrine is working a hardship for the reason that a greater use could be made of the water than is made by the riparian owners, the only way in which the inconvenience can be removed is by applying the right of acquiring the riparian rights by condemnation. In fact, it appears from the record in this very case that, although the complainant has been diverting water ever

since 1872, as late as 1899 an injunction was obtained against it in the case of *Stevinson vs. San Joaquin & Kings River Canal & Irrigation Co.*, 162 Cal. 141, from diverting more than a given quantity of water. For the purpose of obviating that restriction, the complainant has instituted in the Superior Court of the County of Merced a proceeding in eminent domain against the Stevinson interests for the purpose of condemning the riparian rights of the Stevinsons to the extent of permitting a further diversion of water by the complainant (see *San Joaquin & Kings River Canal & Irrigation Co. Inc. vs. James J. Stevinson*, 164 Cal. 221). In that suit the defendants are claiming compensation for their rights in the sum of nine million dollars. We do not anticipate that the court will allow them any such amount; that it will allow some damages is certain. In the case at bar the undisputed evidence is that every cubic foot of water is worth three thousand dollars, and, while that is not all appurtenant to the Stevinson land and therefore we will not have to pay them any such sum of money, if acquired as against all the riparian owners the damages would undoubtedly be very great. The result of this is that the courts of the State of California have held that the riparian owners and not the public own the right to the flow of the water. The courts of the State of California have told the people of California that if they desire to acquire these rights they may authorize canal companies by eminent domain to acquire the same, and we respectfully submit that the court in deciding this matter has proceeded on the assumption, not that the riparian owner owns the water, but that the public owns the water, and by the decision herein (which holds that if a canal company should condemn these riparian rights and

should pay therefor it could not obtain any return thereon), this court has taken away from the people of the State of California the only remedy which the courts of the state have held is available to overcome the impediments to the use of water growing out of the riparian doctrine.

COLORADO CASES.

The court also cites certain cases from the State of Colorado, but in doing so the court has entirely overlooked the fact that the entire framework of the law of that state in regard to water is different from the law of the State of California. In that state the riparian doctrine has been held not to prevail, and that left the state clear to make such disposition of the water as it saw fit. Under that power the people in the constitution of Colorado, article XVI, section 5, provided:

> "The water of every natural stream not heretofore appropriated within the State of Colorado is hereby declared to be the property of the public and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided."

The court will readily see that this was a declaration that could not be made in the State of California, and the effect of that was *ipso facto* to dedicate all of the water to the use of the people of the state, and the statutes providing for the formation of canal companies simply formed them "for the purpose of *carrying* water for irrigation purposes" (Laws of Colorado 1891, p. 96; sec. 1). It was therefore entirely natural that the courts should hold that the companies were mere carriers of a commodity already owned by the public. But all the courts recognize that this does not apply to California.

Fresno Canal Co. vs. Park, 129 Cal. 437, 445-6; *Wilterding vs. Green*, 4 Idaho 773, 45 Pac. 134; *San Diego Flume Co. vs. Souther*, 90 Fed. 164.

See also opinion of State Railroad Commission in *Palmer vs. Southern Cal. Mountain Water Co.*, Decision No. 418, decided Jan. 21, 1913.

AGENCY THEORY.

The court in its opinion has elaborately discussed the theory that a canal company in the State of California is a mere agent for the owners of the land, and that the owners of the land are the owners of the water. The theory of agency necessarily presupposes two things: namely, a principal and an agent. The principal supplies the financial assistance necessary, lays out the general plan of the work, and has complete control and direction over the agent, and bears all of the losses of the venture and receives all of the benefits, except such compensation as the agent may receive by agreement. On the other hand, the agent is subject to no responsibility in case of loss in the absence of some wrongful act, and is entirely subject to the control of the principal and receives no benefit from the success of the enterprise, except such compensation as may be agreed upon. In the case of a canal company the canal company and not the land owner contributes all of the financial assistance. It is subject to the control of no one in proceeding to acquire its properties and construct its system. If it constructs its canals as plaintiff did at the expense of many thousands of dollars, and after it has constructed them a riparian owner or appropriator enjoins it from diverting the water of the stream, all of the loss falls upon the canal company; or if it succeeds in diverting the water and the public fails to patronize the company it has no redress against any

one, but must suffer all the losses of the enterprise. Again it may today sell water to a particular tract of land and if the owner of that tract of land abandons it tomorrow, he owns no water and no water right which he can assign and transfer to any other person, but the company can proceed to sell the same to some other member of the public. If other members of the public demand the water it may sell it to them and divide the water between the various members of the public in case of a shortage. According to the latest decision of the Supreme Court of California the first taker of the water has not even any prior right as against other members of the public who subsequently purchase it. (*Leavitt vs. Lassen Irrigation Co.*, 157 Cal. 82.) We feel that we can safely assert that there is not a case in the history of irrigation in the State of California where the canal company appropriating and diverting water has not been held to be the owner of the water in every form of litigation in which that question has arisen. Can there be any question that such a company appropriating water would have a right to go into court for the purpose of protecting its right to divert the water appropriated, and how could it do so under the law unless it was the owner of the appropriation? This reasoning may apply in a state like Colorado, where the state has declared all "unappropriated" water to be the property of the people and where a company is simply organized for the purpose of carrying water, but in a state like California, where the company must first acquire the water by purchase, condemnation, or prescription before it can be secure in its right to divert the same at all, and where it must bear the entire loss in case of failure, to hold the company to be an agent and at the same time subject to all the responsibility of a principal would be an injustice which the court should not countenance.

RETURN ON WATER RIGHTS PERMITTED IN OTHER CASES.

In other important cases *in the court in which this case was decided* companies have been held to be entitled to a return upon their water rights. Judge Morrow allowed such a return in a case of much more relative importance than the case at bar, namely: the case of *Spring Valley Water Works vs. San Francisco*, 124 Fed. 574, 591. Judge Van Fleet, now judge of the United States District Court of the same district allowed such a return when Associate Justice of the Supreme Court of the State of California in the case of *San Diego Water Co. vs. San Diego*, 118 Cal. 556, 567, and within a month after the decision in this case, Judge Farrington, United States District Judge for the District of Nevada, sitting for Judge Morrow in the Circuit Court of the Northern District of California, in the case of *Spring Valley Water Works vs. San Francisco*, 192 Fed. 137, allowed a return on water rights of that company valued at several millions of dollars. In the opinion in that case the court will find separate valuations placed upon each of the sources of supply of that company, and it is stated in the opinion that all of the parties to the litigation conceded that the company was entitled to a fair return upon the value of its water rights. In fact, when the Spring Valley Water Company acquired the various streams which ultimately formed the Crystal Springs reservoirs, when it instituted the condemnation proceedings of *Spring Valley Water Works vs. San Mateo Water Works*, 64 Cal. 123, if any one had told the originators of that company, no matter what they paid for that water, which was the actual life of the City and County of San Francisco, they never could get a return on the outlay, we doubt whether they or any other concern would have invested their money in the

enterprise. When those companies commenced drawing water out of the gravel beds of Alameda county, thus depriving hundreds of acres of land of an underground water supply to which the land was entitled (*Katy vs. Walkinshaw*, 141 Cal. 123), and when they paid thousands of dollars in damages in order to entitle them to abstract that water, if they had been told by an authoritative decision of the courts of the state that they would never be entitled to any return thereon, it would certainly have been difficult for them to have raised money to invest in such a charitable enterprise. As the court well knows, all enterprises of this kind at the present day must be financed by means of bonds, salable on the open market. Suppose the complainant in this case were incorporated for the purpose of carrying out this enterprise, and should have acquired its water rights by condemnation, and issued bonds for the payment of the water rights and for the construction of its works, could those bonds ever have been sold if endorsed on each of them was an authoritative decision of the courts of the state to the effect that at no time and under no circumstances could the company ever receive from the public any return whatever upon the money thus invested? In the case at bar, every year the complainant must pay dividends upon one hundred and twelve thousand five hundred dollars of stock, which was issued in 1871 in payment of water rights then acquired by the company, but still the court says that it is entitled to no earning whatever upon that same one hundred and twelve thousand five hundred dollars worth of water rights.

In the case at bar the complainant company every year must pay to Miller & Lux several thousands of dollars in the way of reduced charges for water guaranteed to that company by the contract entered into by the predecessor in interest of complainant in 1871

before the company could divert any water from the river. The court in its judgment herein charges the complainant with receiving the full rates from that company, although it has not received them and cannot receive them in view of the contract, which was entered into at a time that Miller & Lux had no control of any kind over the canal company (Trans. p. 245), when they were standing at arms length, one of them desiring to divert the water and the other in a position to absolutely prevent such diversion. At the time of the entering into of that contract it was recognized by the canal company that it, like every other canal company, would have what is generally known as surplus water; that is, water in its canals which would not be demanded by the public for the irrigation of their lands. On the other hand, Miller & Lux, the riparian owner, had a large quantity of wild land which had theretofore been flooded from the natural overflow of the river, but which would probably be more or less deprived of that overflow by the diversion through the canal, and it was therefore arranged that this surplus water when not demanded or required by the public should be wasted out on those lands without the canal company being liable for damages for doing so, and without Miller & Lux being liable to pay therefor. It should be remembered in this connection that extensive canals of this kind are not built for the purpose of flooding wild land, nor could that character of land afford to pay such water rates as may be paid by land which is cultivated and irrigated. No one can doubt the entire reasonableness of this contract, which was in fact entered into between people entirely separate and distinct and each trying to drive the best bargain possible. Still the court charges the canal company with having annually received the value of this water discharged onto this wild land, estimated at $10,000, although the company never has and never

could receive it under these contracts, and without those contracts it never could have diverted a drop of water from the river. And still it holds that the company acquired no water rights by virtue of those contracts.

PUBLIC IRRIGATION DISTRICTS.

This matter is made still more clear when considered in analogy to irrigation districts formed under the Write Irrigation Act (Stats. Cal. 1887, p. 29), or when considered with reference to municipal water supplies. In both of these cases it is well recognized that these municipal corporations and irrigation districts may acquire water rights by purchase or condemnation, and it is contemplated that in payment of those water rights bonds of the district or municipality may be issued. At any rate the court can readily see that if a public irrigation district had initiated this enterprise and had acquired and paid for water rights, those water rights in turn would have been paid for by the irrigators or by the public. What reason can be suggested why the public should pay for the water rights when the public themselves acquire them, and should not pay for them when they are acquired by a canal company acting as an agent for the public? The most elementary principle of agency is that if the agent does any thing for the benefit of the principal he is entitled first to be fully reimbursed for all his outlays, and secondly to a reasonable compensation for his services, but here the court permits the public, which is the supposed principal, to take the full benefit of what the agent has acquired for it, and not only refuses to reimburse the agent for the money which it has expended, but also refuses to give it any return for its services in acquiring the property.

At the time complainant's system was inaugurated it was, and still is, the law of this state that the riparian owners on the river are entitled to the flow of the stream, and that no one was entitled to take the water as against a riparian owner, and that the only way that such right could be acquired was by purchase, condemnation, or prescription. There was no evidence introduced as to the exact nature of the "water rights" purchased from John Bensley and the others who inaugurated the project, and, in fact, the parties at this time being all dead, such evidence was not available, but in view of the fact that the evidence shows that as early as the formation of the company in 1871 the company which was incorporated in 1864 had constructed works of the value of $119,000, and had water rights which were considered at that time to be worth $112,500, it must be assumed at this late day that the price at which the works and water rights were sold was the reasonable value thereof. (*Wilcox vs. Consolidated Gas Co.*, 212 U. S. 19, 53 L. Ed. 382.) From this it may readily be assumed that by appropriation and subsequent diversion, or by purchase of existing appropriations, or by purchase from the riparian owners, or by some other method, the originators of this project had at that time acquired water rights of the value mentioned. In this connection, it might be mentioned that both in the master's report and in the argument of counsel it is suggested that it cannot be assumed that the $112,500 was paid for water rights, for the reason that on the books it appears that that sum was paid "for water rights, etc." If this stood alone there might be some merit in the contention, but it appears that there were two payments made at the time; one for "cost of works" and the other "for water rights, etc." Now, the works would obviously include

the dams, canals, structures, and land used for right of way for the same, and therefore the payment of $112,500 could only have been for water rights, the word "etc." evidently meaning things of the same nature as water rights, such as appropriations, water, riparian rights, etc.

AGREEMENTS WITH RIPARIAN OWNERS.

It further appears that the principal riparian owners on the river were Miller & Lux (Trans. p. 343) and the California Pastoral & Agricultural Company (Trans. p. 349), and it appears that the company proceeded to obtain the consent of those owners to the diversion of this water. The first contract is dated the 18th day of May, 1871, between the original company, San Joaquin & Kings River Canal Company, and Miller & Lux (Exhibit 6), and recites that the canal company is organized for the purpose of constructing a canal on the west side of the San Joaquin river, and agrees to construct it for at least sixty (60) miles before January, 1872, and for a further distance to the Western Pacific Railroad by the first of April, 1872. In consideration of that agreement, Miller & Lux granted a right of way for the canals, and further agreed that after sufficient water had been furnished for the irrigation of fifty thousand (50,000) acres of land they would pay the company a subsidy of twenty thousand dollars ($20,000). The company further agreed to furnish Miller & Lux water for irrigation, and Miller and Lux agreed that "they will pay "the said party of the first part for each crop a sum "not exceeding one dollar and twenty-five ($1.25) "cents per acre, or the prices paid by other parties for "every acre of their said lands actually irrigated by "them from the waters of said canal." The contract further provided that "for the purpose of enabling the

"party of the first part to carry out its enterprise, and "effectuate its designs aforesaid, it is further agreed "that it shall have the use and benefit of all sloughs "between said canal and the San Joaquin river on the "said lands of the parties of the second part." These sloughs were evidently for the purpose of discharging the surplus water out of the canal back to the river, as appears by the next paragraph:

> "And it is further agreed that should the said canal diminish the natural overflow which usually occurs between the first day of April and the fifteenth day of June of the San Joaquin river and its sloughs upon the said lands of the said parties of the second part, then the said party of the first part shall at any time between said months open the gates of the said canal at the request of the parties of the second part and, free of charge and expense to them, permit an overflow from the said canal on said lands equal in quantity of water to that of which they were deprived as aforesaid."

The company also agreed to construct bridges across the canal not less than twelve feet wide for every six miles at such points as Miller & Lux might designate; and also provided that Miller & Lux should not be responsible for damages to the canal by cattle, and also provided that the canal company should give Miller & Lux "a sufficiency of water from said canal "for their cattle, and for all domestic purposes for "themselves, their tenants and employees, free of "charge."

After the formation of the new company a new contract (Exhibit 7) was entered into dated the 7th day of February, 1872, between Miller & Lux and the new company abrogating the first contract, and providing that in lieu of the subsidy Miller & Lux

gave two promissory notes for six thousand six hundred and sixty-six dollars ($6,666.00), and agreed to pay the further sum of six thousand six hundred and sixty-six dollars ($6,666.00) when fifty thousand (50,000) acres of land were irrigated. The other provisions of the contract were largely the same as the original contract, but it provided that Miller & Lux "agree to pay to said party of the first part for water "furnished by it used in irrigating each crop the regu- "lar price paid by others for irrigation not to exceed "one dollar and twenty-five cents per acre for each "acre so irrigated of land owned by said party of the "first part." It also provided:

> "It is further agreed by and between the parties hereto that in case the canal of the said party of the first part shall diminish the natural overflow of the San Joaquin river and its sloughs which usually occurs between the 1st day of April and the 15th day of June in each year upon the lands of said party of the first part, then and in such case said party of the second part shall at any time at the request of said party of the first part between said dates, and free of charge and expense to them, permit an overflow from the said canal upon said lands equal to that of which they shall have been so deprived as aforesaid."

It appears that shortly after this disputes arose between Miller & Lux and the Canal Company as to the meaning of these contracts and litigation was instituted in regard thereto, which was finally settled and terminated by an agreement dated the 12th day of November, 1879 (Exhibit 8), which, among other things, construed the original contract to mean that the Canal Company

> "will deliver water therein at its regular rates, not exceeding one dollar and twenty-five cents

($1.25) per acre per crop provided the crops are cut, but in case the alfalfa lands should be pastured then each supply of water of the usual quantity supplied to produce a crop shall be deemed to be such a supply as will entitle a charge to be made therefor, the same as if the crop shall be cut."

It appears that from the time of the execution of this contract the Canal Company continued to divert water from the river until the 17th day of August, 1898, when another contract (Exhibit 11) was entered into between the Canal Company, the California Pastoral & Agricultural Company and Miller & Lux, which contract recited that

> "differences have arisen between the parties hereto as to the rights of the parties of the second and third parts hereto to take water from the said San Joaquin river, and also as to the amount of water they are each entitled to take and receive from the said river, and as to their priorities in such water."

For the purpose of settling and adjusting those differences it was agreed that the Canal Company might first take from the river seven hundred and seventy-five cubic feet of water per second; that after that amount of water had been taken by the Canal Company, the Chowchilla canal should be entitled to take one hundred and twenty (120) cubic feet of water per second. This agreement further provided:

> "It is understood that this agreement neither fixes nor limits any rights of Miller & Lux, the party of the third part hereto, to the water flowing in said San Joaquin river after the diversion therefrom of said quantities of seven hundred and seventy-five (775) feet and one hundred and twenty (120) feet herein provided for."

This contract was followed by a contract dated the 4th day of June, 1901 (Exhibit 12), between the Canal Company, Miller & Lux, California Pastoral & Agricultural Company and others, by the terms of which the previous agreement, dated August 17, 1898, was ratified and confirmed, and

> "2. Subject to the provisions of said last mentioned agreement and also subject to the provisions of that certain other agreement between the parties of the second and third parts hereto, bearing date the 18th day of May, 1899, the said party of the third part (the Canal Company) shall have the right at all times to divert from the said San Joaquin river thirteen hundred and fifty (1350) cubic feet of water per second.
>
> "3. Subject only to the diversions provided for in the said two agreements and in the second paragraph of this agreement the said party of the second part (Miller & Lux) shall at all times have the right to divert from the said San Joaquin river so much water as it may desire."

It also appears that the diversion by the Canal Company of water from the river has been done openly, continuously, uninterruptedly, and under a claim of right, for much more than the statutory period sufficient to constitute a title by prescription (Trans. p. 344), and that the only riparian owner who has ever brought any suit to enjoin such diversion is J. J. Stevinson, who brought such a suit in the year 1899 (Trans. pp. 343-4). As a result of that suit it was adjudged that for more than five years prior to the 15th day of August, 1899, the Canal Company had diverted and acquired a prescriptive right to divert seven hundred and sixty (760) cubic feet of water for the irrigation of non-riparian lands, and that beside that it was entitled to divert a reasonable quantity of water from the river for the irrigation of riparian lands (Exhibits 24-5).

There is one other contract between Miller & Lux and the Canal Company which has an important bearing on the case, to-wit: the contract dated the 18th day of May, 1899 (Exhibit 10), which reads as follows:

"THIS AGREEMENT, made this 18th day of May, 1899, by and between The San Joaquin and Kings River Canal and Irrigation Company, a corporation organized and existing under the laws of the State of California, the party of the first part, and Miller & Lux, also a corporation organized and existing under the laws of said state, the party of the second part.

"WITNESSETH: That, whereas, prior to the construction of the canal of the party of the first part, Henry Miller and Charles Lux were the owners of lands lying along and bordering upon the San Joaquin river, and its sloughs, in said state, and lying above and below the head of the canal of the party of the first part, and were the owners of riparian rights in and to the waters of said river and sloughs, and had been accustomed to and did actually use the waters of said river and sloughs which naturally overflowed said lands, and also to take water therefrom by artificial means, for the purposes of irrigating said lands and furnishing water for their cattle and live stock and for other domestic uses, in accordance with their said riparian rights;

"And, whereas, said Henry Miller and Charles Lux, for the purpose of aiding the construction of said canal of the party of the first part, did pay to the party of the first part a subsidy in money, and conveyed to it a right of way for its said canal where the same passed through the lands of said Henry Miller and Charles Lux of a width of one hundred (100) feet on each side of the center line of said canal, and permitted the party of the first part to appropriate and divert from said river through said canal eight hundred

(800) cubic feet per second of the water flowing in said river;

"And, whereas, at all times since said appropriation was made by the party of the first part said Henry Miller and Charles Lux, and said Henry Miller, as the survivor of them, and the party of the second part (as the successor in interest of said Henry Miller and Charles Lux) continued, as said riparian owners, to use the overflow waters of said river and sloughs upon said lands for the aforesaid purposes, and also to use, for the purpose of irrigating uncultivated land, and furnishing water for their live stock and for other domestic uses, and with the consent of the party of the first part, and without any charge therefor by it, the surplus water running in said canal not used or required by the water consumers of the party of the first part other than said Henry Miller, Charles Lux, and the party of the second part;

"And, whereas, during all said times it was understood by all said parties that said Henry Miller and Charles Lux, and said Henry Miller, as the survivor of them, and said party of the second part, as the successor in interest of them, were of right entitled to the said use, without charge, of the said surplus water in said canal; and that said party of the first part was of right entitled to waste said surplus water on said uncultivated lands;

"*And, whereas, the party of the second part has agreed to permit the party of the first part to appropriate and divert from said river, through its "Outside Canal," three hundred and fifty (350) cubic feet per second of the water flowing in said river, in addition to the aforesaid eight hundred (800) cubic feet per second;*

"Now, therefore, in consideration of the premises, and to the end that the rights of the respective parties hereto, as heretofore understood

and recognized, may be fixed and established, the party of the first part does hereby confirm unto said party of the second part the right to use, for the purposes of irrigating the said uncultivated lands above referred to, and of furnishing water for its cattle and live stock, and for other domestic uses, free of cost or charge to it, all or so much of the surplus water running in the canals of the party of the first part as the party of the second part may desire to use for said purposes, and which may not be used or required by the other water consumers of the party of the first part; and said party of the second part does hereby confirm unto said party of the first part the right to waste said surplus water on said uncultivated land.

"And the party of the first part does hereby acknowledge and declare that it has no claim to make against the party of the second part, or its predecessors in interest, on account of the use heretofore made by it and them of said surplus water."

Besides this the company has entered into contracts with the power company for the reservoiring of the water of the river, which will increase the available flow in the late summer (Exhibits 19 and 22).

It results from this that the Canal Company has acquired in the course of its history and existence the following rights:

1. It has succeeded by purchase to the rights of the old San Joaquin & Kings River Canal Company, organized in 1864, and the rights acquired by John Bensley and the other organizers of that company prior to the year 1871.

2. It has acquired against Miller & Lux, the largest riparian owner on the river, by express grant the right to divert thirteen hundred and fifty (1350) cubic feet of water per second.

3. It has acquired against the California Pastoral & Agricultural Company, the second largest riparian owner on the river, the right to divert seven hundred and seventy-five (775) cubic feet of water in the river and after diversion of one hundred and twenty (120) feet by the California Pastoral & Agricultural Company to divert an additional quantity up to thirteen hundred and fifty (1350) cubic feet.

4. It has acquired by prescription, and had determined by judicial proceeding against J. J. Stevinson, the only other riparian owner who has called its rights in question, the right to divert seven hundred and sixty (760) cubic feet of water for the irrigation of non-riparian lands, and the right to divert from the river a reasonable quantity of water for the irrigation of riparian lands, of which, it appears, there are many thousands of acres under its canals (Trans. p. 557).

5. It has acquired by prescription against all other riparian owners and by appropriation against the world the right to divert the quantity of water which the evidence shows it has diverted into and through its canals for much more than five years, to wit: thirteen hundred (1300) cubic feet of water per second.

COST OF WATER RIGHTS.

The next question that arises is what did these water rights cost the Canal Company to acquire?

1. In the first place, as we have shown, it appears as we contend that it paid John Bensley and others for the rights which they had in 1871 the sum of one hundred and twelve thousand five hundred dollars ($112,500).

2. In the second place, it appears that by the contract with Miller & Lux the Canal Company agreed to furnish water to them for one dollar and twenty-five cents ($1.25) per acre. It appears that at that

time the company was selling water to others for two dollars and fifty cents ($2.50) an acre. It appears that since that time the Canal Company by reason of this contract has lost an average of $12,495.77 a year. This when capitalized at 6% amounts to $208,263. Deducting from this the subsidy paid, $20,000, leaves a net loss of $188,263 (Trans. p. 345).

3. These contracts, as we have shown, also gave Miller & Lux the following rights:

(a) The right to free water for stock and domestic purposes;

(b) The right to have their grass lands flooded by the surplus water in the canal. The Canal Company was also given the correlative right to discharge its surplus water into the sloughs on the land of Miller & Lux.

The court has held that the right granted to Miller & Lux to have this surplus water is worth $10,000 a year, *and the company is actually charged with the receipt of that amount.* Capitalizing that amount at six (6) per cent would make the value of that right $166,666. It therefore results from this that the Canal Company has actually paid over four hundred and sixty thousand dollars ($460,000) for its water rights. So far as the amount paid to Bensley is concerned, the company is still dividing its profits with the holders of the Bensley stock, which was issued to them in payment of the one hundred and twelve thousand five hundred dollars. So far as the annual advantage to Miller & Lux is concerned, the company loses that every year, and in figuring the amount which the company will be presumed to obtain under the rates fixed by the law, the court has charged the company with the full rate just as if it collected it, but has allowed no credit to the company for that which it got in consideration of this reduced rate. In the same way the court has charged the company with ten thousand dollars a year for this waste water discharged upon

Miller & Lux's grass lands, although the company has not collected that amount, and cannot collect it under the contracts, and still the court has credited to the company nothing which it got in consideration of that concession to Miller & Lux. All this is justified by the court and by counsel for the defendants for the reason that the original contracts with Miller & Lux did not in express words grant to the Canal Company the right to divert this water from the river. This seems to us a very narrow construction of those contracts. It must be perfectly obvious to the court that those contracts were entered into with Miller & Lux for the reason that Miller & Lux had land which was riparian to the river and which was entitled to the waters of the river, even to the extent of the natural overflow from the river and sloughs, as recited in the contracts. It is obvious from the contracts that it was understood that the Canal Company was to divert water from the river, and it is obvious that the contracts by implication consented to such a diversion. The contract therefore was obviously a consent to such a diversion and operated as an estoppel against Miller & Lux to object thereto. It is quite probable that the reason that there was not a direct grant to the Canal Company of the right to divert a given quantity of water was, first, because at that time it could not be determined how much water the Canal Company would be able to beneficially apply, or how much the public would require, and, secondly, the success of the entire venture was probably one extremely problematical at that time. *Later, however, after the company had constructed its canals and their capacity and the demands of the public had become known, contracts were entered into, not only with Miller & Lux, but with the California Pastoral & Agricultural Company, fixing the amount of water which the Canal Company could divert, and granting it the right to divert the same.*

We would not have spent this amount of space in showing the amount actually paid by the Canal Company for its water rights if it were not for the fact that the master decided that if we had paid for our water rights we would be entitled to have a return thereon. This to our mind is the most conclusive evidence of the error of the master in holding as a matter of law that we are not entitled to a return upon the water rights. If anything is well settled in the law of rate fixing it is that the company is entitled to a return upon its property, irrespective of what it cost to acquire it, or whether it cost anything to acquire it. This principle has been nowhere more forcibly applied than it was by this court in the former case between the same parties in holding that the company was not entitled to a return even upon the amount of money necessarily and reasonably expended in the construction of its works, provided they were not of that value at the time the rate was fixed. In other words, the value of the thing which the company owns at the time the rate is fixed, and not the amount which it cost to acquire it, is the criterion. It was not necessary for us in this case to prove the *cost* of any of our property; all we had to prove was the ownership of the property and its present value, and if necessary the court would presume that we paid what it is worth at this time; but, as we have said, whether we did pay for it or whether we did not could not either increase or decrease the return that should be allowed us. In other words, if we had paid two millions of dollars for the water right, and it was only worth a million dollars, obviously the court would not allow us a return on the two millions. Conversely, if it were worth a million and we only paid a half a million there can be no reason under the law why we

should not be allowed a return on the actual value. We feel that the master's decision in holding that we would be entitled to a return on the water right if we paid for it, but would not be entitled to a return on it if we did not pay for it, is utterly indefensible under the law. Strange to say, while counsel for defendants withdrew all exceptions to the master's report, and have thus *from a legal standpoint* concurred in that part of the report that finds that we are entitled to a return on our water right if we paid for it, still counsel took the position in argument that we are not entitled to a return on the water right, whether we paid for it or not. *In other words, on the argument in the court below he expressly took the extreme position that if the company in pursuance of the authority granted by law to it had acquired these water rights by the process of eminent domain against the riparian owners, and had paid the value thereof as assessed by a jury, still when it sold that water and rates were fixed for the same it would not be entitled to any return whatever upon the money thus expended, or upon the right thus acquired.* On the contrary, we argue that we are entitled to a return on the water right by virtue of our ownership of it, and upon its present value irrespective of what we paid for it. We, therefore, proceed to the question as to the value of the right irrespective of any payment made therefor.

On this subject the master found that the water right is of the value of one million dollars, and the defendants withdrew their exception to that part of the report, the complainant has made no exception thereto, and it must therefore be deemed an admitted fact in the case. It is clear that that finding is a conservative estimate of the value of the right.

THE COURT ERRED IN ONLY ALLOWING EIGHT CENTS A CUBIC YARD FOR EARTHWORK IN 1907, WHEN IT WAS ADMITTED THAT IT WOULD COST ALMOST THAT AMOUNT IN 1896, WHEN THE COST OF LABOR AND MATERIAL WAS ONLY ONE-HALF AS HIGH.

THE COURT ERRED IN DISREGARDING THE REPRODUCTION COST IN 1907 AND SUBSTITUTING THEREFOR THE AVERAGE COST OF REPRODUCTION DURING A SERIES OF YEARS.

At the time of the fixing of the rates in the County of Stanislaus in 1896, the Board of Supervisors of that county employed R. H. Goodwin, civil engineer, to make a valuation of the company's property. His valuation at that time only covered a portion of the company's property and at the time of the establishment of the rates here in question, the company's plant had been very materially enlarged and extended. (See Exhibit 21, Trans. p. 1128.) The company, feeling that Mr. Goodwin if given proper opportunity could make a fair valuation of the property, employed him to make such valuation when the rates now involved were established. He made a very thorough examination of the property and his detailed report is set forth in complainant's exhibit "1," transcript pages 930 to 1071. His testimony in this case is found at transcript p. 723, and following. At the time of his valuation, made in 1896, he estimated the cost of excavation at 6.5 cents per cubic yard (Trans. p. 302). This did not include the cost of engineering and general superintendence (Trans. p. 304), which is agreed amounts to ten per cent additional. This would make his actual cost of excavation in 1896, 7.15 cents per cubic yard. He testified that this was rather a low valuation even in 1896, for in 1897 he entered into some contracts for excavation at 7 cents (Trans. p. 300), and the contractor

failed (Trans. p. 430). He testified, however, that during the years 1896-97-98 there was a general stagnation in business. The prices of labor and material were at the lowest ebb, labor was plentiful, and in fact there were many laborers out of employment, so that work at that time could be done at very low prices. This is a matter of which the court will almost take judicial notice. He further testified that in 1907 it would cost from 40 to 50 per cent more to do work of this kind than it would in 1896. This would make the cost in 1907 a little over 10 cents per cubic yard (Trans. pp. 289, 317, 294, 299, 316). He testified that the cost of labor in 1906 was double what it was in 1896 (p. 316). The other evidence on this subject was as follows: It appeared that the actual cost of the excavation in 1885 had been 15 cents per cubic yard (Trans. page 397).

C. A. Warren was also called as a witness on this subject. He had been in the contracting business since 1874, and was well acquainted with these canals. He testified that he considered the figures of Mr. Goodwin ridiculously low (Trans. p. 980). He also testified that during 1907 the average cost of labor was $2.25 per day (p. 979), while in 1896 labor was plentiful at from $1.00 to $1.25 per day (Trans. p. 317).

W. C. Hammatt, civil engineer in the employment of the complainant, testified that he had done excavating for the complainant during the years 1907-1908 and that it had cost from 10 to 15 cents to do the work (Trans. p. 554).

To overcome this testimony, which was otherwise uncontradicted, the defendant called an engineer, H. H. Henderson. He testified that in his opinion, instead of constructing these canals with plows and scrapers, they could be constructed in a new method, as to which he testified as follows: First, he would construct two small canals, using an excavator; after these were com-

pleted he would turn water into them so as to float a dredger and this dredger would dredge out the "core" between the two small canals, thus completing the entire canal (Trans. p. 754). He testified that he had never used any such method of construction (Trans. p. 795), and that in order to do the work in this way it would be necessary to purchase a dredger costing $20,000.00 (p. 796), and that all structures would have to be put into the canals before they were completed so that they could hold water to carry the dredger. He also testified that he figured that the dredger would do three-quarters of the work (Trans. p. 812). He testified that the dredger work would cost 5 cents per yard (p. 792), the excavator work from 6 to 7 cents (p. 793), and that the combination of the two would cost 5 cents (p. 793). (At these figures the cost would be in fact 6.12 cents.) On cross-examination this theory was entirely destroyed by showing that after the work had been done by the excavator the core left to be removed by the dredger would be so small as not to in any way justify such a method of construction. (See transcript pages 814 to 816, complainant's exhibit 30, and transcript page 922.) The witness then practically abandoned his claim that these canals could be constructed in any such a manner and further contended that he could make them with an excavator for 4 cents per yard (Trans. p. 856), although he had already testified that the excavator work would cost from 6 to 7 cents (Trans. p. 793). He also admitted that part of the work would have to be done with scrapers (Trans. p. 814).

The testimony of this witness being thus entirely destroyed, defendants shifted their ground from the theory of the construction with the combination of excavator and dredger to a construction with a combination of excavators and scrapers and in support of this theory called as a witness one A. B. Southard. He

first testified that you could run an excavator for from 3 to 5 cents per yard (Trans. p. 883). On cross-examination he testified that an excavator could not be handled in adobe soil (p. 883); that he had recently obtained a contract to do excavating which was offered to public bidding and for which he received 20 cents per yard (Trans. p. 885). He further testified that he had only used the excavator method on one job and that he had been compelled to abandon it and that the new contractor that took the job got 10 cents per yard for the work and that it actually cost him 9 cents per yard (Trans. p. 888). He further testified that the excavator cannot handle sandy earth (Trans. p. 890); that he had done work of excavation at San Diego and received 30 cents per yard (Trans. p. 892). He further testified that you could not complete any canal with an excavator because the excavator will not handle all the earth and the balance must be scraped out with a scraper (p. 893). *He further testified that canals constructed with excavator and scrapers were worthless and would not hold water against the banks for the reason that the earth is only dropped from the arm of the excavator and is not packed as it is when scrapers are used, and that the work that he referred to in his testimony did not in fact hold water* (Trans. p. 893). He further testified that in his estimate of the actual cost of running an excavator he did not include the work which had to be done with the scraper to complete the job and that the combined work of the scraper and dredger actually cost 7.5 cents and was worth from 9 to 10 cents (Trans. pp. 920-921). It will be seen from this that a canal constructed with excavators would be useless, as it would not be sufficiently packed to hold water against its banks, which is necessary in an irrigation canal (Trans. p. 916). Mr. Hammatt further testified that he had used an excavator and

that it actually cost 11 cents per yard (Trans. p. 917, and complainant's exhibit "32").

It seems to us that under this testimony it is not disputed that to construct these canals with plows and scrapers it would cost at least 10 cents a cubic yard. It is also well established by this testimony that a canal constructed with an excavator and scrapers is worthless and will not hold water even if it should be constructed more cheaply, and under these circumstances it seems to us unjustifiable to limit the cost of this excavation in 1907 to 8 cents a cubic yard, *including engineering and general superintendence.* The matter seems particularly unfair when the defendant itself placed a price of over 7 cents in 1896, and the testimony is undisputed that the cost in 1907 would be from 40 to 50 per cent greater than in 1896. In this connection the master practically disregarded the actual reconstruction cost in 1907, simply because the cost in that year was higher than the "average." We certainly feel that this is doing a great injustice to the complainant. It has been held in all of the cases that the present reconstruction cost is the measure of value, and in a former case between these same parties this court held the complainant down to the low value which existed at that time owing to the general stagnation of business throughout the country, and it is hardly fair to only give the company a return on a low value in bad years and then refuse it a return on a high valuation in good years. In fact, the master entirely repudiated the doctrine of reproduction cost so firmly established by this court and attempted to fix the value by speculating as to what someone might pay for the property and argued that a person purchasing the property would not consider the reproduction cost in an abnormally high year or an abnormally low year, but would figure on an average cost. If this rule were worked out logically in all cases and we were given

a return on an average cost during the life of the canal we might not object, as that would include the years when the work cost probably from 15 to 25 cents per yard, but we may properly insist that some consistent rule be applied, and if this court has not now adopted the rule of present cost of reproduction, then all the efforts of this court to lay down a rule on this subject have gone for naught.

The rule adopted by this court has been subject to criticism and the Supreme Court of California at one time adopted the rule of original cost on the theory that the company having then dedicated its property to the public was entitled to a return upon the value of the property when dedicated (*San Diego Water Company vs. San Diego*, 118 Cal. 556); but, while the reasoning of that case has considerable to commend it, it is not the reasoning adopted by this court, but, on the contrary, this court has firmly established the rule of present reproduction cost and has charged the complainant in this case with the loss resulting from that rule in years when values were low, and it would now be extremely unjust to deny it the benefit of an increased valuation when values are higher, especially in view of the fact that even in the latter years the values are much lower than the original cost. We believe that the decision of the master which was approved by the court below on this subject is contrary to the decisions of this court and should be reversed.

THE COURT ERRED IN HOLDING THAT, ALTHOUGH THE COMPANY WAS ENTITLED TO APPRECIATION IN THE EARTHWORK, AND THE UNCONTRADICTED TESTIMONY SHOWED SUCH APPRECIATION, IT COULD NOT BE ALLOWED BECAUSE THE WITNESS WHO TESTIFIED TO IT WAS NOT SHOWN TO HAVE BEEN SUFFICIENTLY QUALIFIED TO TESTIFY ON THE SUBJECT.

R. H. Goodwin testified as follows (Trans. pp. 278-9):

"Q. 55. Along the canal bank, is there any roadway all the way from the head as far as Newman?

A. Well, practically all the whole length of the canal.

Q. 56. The bank of the canal where the earth has been thrown out from the excavation that has been formed into a roadbed?

A. Either that or backed up the embankment, making it more solid and wider.

Q. 57. And what is the general condition of that roadway?

A. Very good indeed, when I was over it.

Q. 58. Do automobiles and horses and wagons travel it?

A. I didn't happen to see any, but they go along there.

Q. 59. You didn't see any automobiles?

A. I didn't see any automobiles.

Q. 60. But it is traveled by horses and wagons?

A. Yes sir.

Q. 61. You did not include anything extra in your estimate for that road?

A. No, I did not.

Q. 62. In regard to the canals, Mr. Goodwin, what is the difference between a canal when new and when old? Does it improve with age or decrease with age—that is, the excavation work itself; nothing else but the excavation work?

A. It improves with age.

Q. 63. And in what way?

A. It settles, becomes firmer. It stops seeping, which is a big item in irrigation work.

Q. 64. About the blowing out of the canal and structures, is there more or less likelihood of that in a new canal than in an old one?

A. Very much more in a new canal. The structures are not well seated.

Q. 65. In estimating the value of road work and excavation of these canals, did you simply put the valuation of the actual cost of excavating them, or did you add anything for the appreciation that you have mentioned?

A. No, I did not add the appreciation; just the mere cost of the excavation.

Q. 66. That is, you took no note of any appreciation, if there was any, in making your estimate?

A. No sir."

W. C. Hammett testified to his qualifications as a civil engineer (Trans. pp. 538, 539), and, after testifying as to his familiarity with the canals of complainant, testified as follows (Trans. pp. 543-4, 548-51):

"Q. 48. Will you state to the court, Mr. Hammett, how a new canal, newly built, differs in its effectiveness from an old canal, so far as the earthwork is concerned, irrespective of the structures?

A. Yes sir. Well, for the first few years, the number of years depending a good deal on the character of the soil through which the canal runs, there is not only a great deal of seepage from the canal, due to the loose soil, but there is also quite a bit of danger connected with operating the canal, due to the banks not being compacted, and water getting out through small crevices between the clods in the banks and starting a stream out which will make a washout; also from the structures not being compacted and well bonded around the footwalls, and "blowing

out," as it is called, which makes a new canal rather precarious of operation. After it has been operated a few years, depending, as I say, on the nature of the soil, things get in a condition so that it stays about the same from year to year. The apertures between the clods get filled with silt, and the same way the footwalls and the floor settle and get well silted around, so that it stops the leakage from the canal, stops both seepage and leakage from the gates, which tends to blow out the gates.

Q. 49. Have you given attention to the amount of loss from seepage and evaporation in canals?

A. I have, in a general way, but I have been unable to get accurate figures on them. Figures are very hard to get, due to people wanting to get water through and not caring much about the measurements.

Q. 50. But have you experimented yourself in order to determine the amount of loss by seepage and evaporation in canals, new and old, and otherwise?

A. I have with old canals; but, as I say, on new canals I have been unable to get figures except in a general way, because we have no new canals of our own, and with other people's canals, they do not seem to care much about the figures, and so it is impossible to get accurate figures from them. They do, however, state that the loss is in a general way, so much, but there is nothing accurate in those figures.

Q. 51. Well, irrespective of the exact figures, are you able to approximate the difference in loss between a new canal and a well silted canal, *from the experience you have had?*

A. I am able to assume it at a quantity which I am sure is less than the actual quantity. That is the best I can do.

Q. 52. That is, to a certain degree you would be able to give what would inevitably be the leakage and seepage in this canal if it were built and completed today and put into immediate operation?

A. That is what I meant to state, yes.

Q. 53. It might be greater than you estimate; but you mean that you can give an estimate which you are sure of?

A. Which I am sure would be the minimum quantity.

Q. 54. What examination, if any, have you made of the canals of complainant in order to determine the amount of actual seepage and evaporation in the complainant's system of canals as they now exist and of during the year 1907-8?

A. In August, 1907, I had measurements taken over the whole San Joaquin system and determined the amount of loss of water during a short period during that month, a period of seven days, in fact, was all that I was able to collect proper figures on, due to the inexperience of the men that I had at work on it. So I had to throw out the first two weeks of their work, and the third week they got in figures which could be taken. Then in 1908 I had continuous measurements taken from the 1st of July until the last of August, to determine the exact amount of loss from seepage and evaporation in the canal.

Q. 57. Now, will you state the results of your measurements in 1908, the whole result, as much in detail as you think necessary?

A. I have not much detail here. The total loss in second feet per day was 437.26.

Q. 95. Now, you stated that your experience permitted you to come to at least a minimum amount that would be lost in a new canal, and for the first few years of its construction. Will

you state what that experience has been in that regard, and what is the amount of loss in a new canal as compared with this canal?

A. *My knowledge of that is mainly from observation of a few small, new ditches,* and of hearsay in regard to actual canals where water has run in on new canals. For instance, we have at the end of our outside canal a Realty Ditch, which was put in during the past year, and we know how much water per acre it took in that ditch to irrigate. We know that that was about six or eight times the amount that it takes per acre to irrigate under our own canal. Therefore, we assume that the extra quantity of water was lost in the canal due to its being a new canal. It would be probably about five times the amount that is being lost per mile in our own canal. Then I have been told by people who were connected with the canal system—the San Joaquin canal system—that at the time when the extension of the canal was made from Los Banos creek to Orestimba creek, that between four and five hundred second feet were turned into that canal first, in attempting to take it to the Orestimba creek, and that very little of that water reached Orestimba creek; that is, that the loss for that—about 30 miles—was about 400 second feet for 30 miles.

Q. 96. *I would suggest that it is better to base your testimony on your general knowledge as to the character of the soils and the way that water does act in new canals, according to your knowledge, and compare it with how it acts in this particular canal, rather than on individual matters of that kind which you have no personal knowledge of. It is a matter of opinion, you understand, on this matter. It is not a matter of knowledge, that anybody can testify to.*

A. I was merely giving the general characteristics. It is well known, not only among en-

gineers, but also among laymen, that when water is turned on new ground, whether that ground has been shaped in the type of a ditch or whether it is cultivated ground, that the water seeps into the ground and seeps away, depending on whether the ground is silted or not—on the character of the soil, whether it is loose ground—a close-grained soil. I merely wanted to show that two or three times the quantity of water which is now being lost in the canal is a very light estimate of what would be lost in a new canal. My idea is that in the average ground, consisting of a loam, that there would be from three to five times the amount of water lost the first year than there would after the canal is thoroughly silted, and that this silting process would take a number of years, the canal growing nearer and nearer the perfect condition as the years went on.

Q. 97. Take this entire canal system, what would be your opinion as to the amount that it would lose on the average during the years before it got into what you might call a perfect condition?

Mr. Langhorne: I object to that on the ground that the witness's own testimony shows that his knowledge as to new canals depends on hearsay, and that he has no knowledge of this canal prior to 1907; and on the further ground that it is irrelevant to any issue in this case, what the loss would be in this canal as a new canal.

The Master: The objection is overruled.

Mr. Langhorne: We take an exception.

A. I should say that it would lose three times as much at the start as it would after, eight years or so, and that after eight years or so it would practically be silted so that the loss would be very little more than it would after any succeeding number of years.

Q. 98. Did you make an estimate of the increased value of the canals over new canals by reason of the greater quantity of loss in the new canal than the old canal?

A. I did.

Q. 99. Will you state now exactly what you based that computation on—that is, what proportion of loss in a new canal, and what number of years you assumed it would take to get the canal into normal condition, and what the percentage of loss you assumed in the canals in their present condition?

Mr. Langhorne: It will be assumed that my objection and exception to all this class of testimony, as to loss from seepage and evaporation in this canal as compared with a new canal, or as to any testimony as to increased valuation of complainant's canal system by reason of those facts, in regard to loss by evaporation—that my objections and exceptions to all that class of testimony apply?

The Master: It will be so considered.

A. The theory that I went on was this: that if the canal was constructed anew, that there would be a very much increased quantity of water lost in that canal in the first few years, as I have stated. The canal is entitled to a certain quantity of water. We have takers for all that water; and, therefore, the second feet lost during this few years while the canal was silting up, is an actual loss in dollars and cents. I consider that loss as a block amount equal—that is, that the loss in one year, the present loss in one year, that is, the increased loss because of the canal being new, over this eight years, would be equal to six (6) times the present loss in one year. This is due to the fact that at first, the first year, it would be three times as much, but the second

year it would be very much smaller; that is, the change in loss for that eight years would not run in a straight line, but would run in a curve approaching the horizontal; that at the end of eight years the loss would be the same from year to year and that the total loss of those eight years would amount to, as I say, a block amount equal to six times the present amount in one year. That amount would be approximately 125,000 second feet for 24 hours. I gave this a value equal to the value per second foot of every second foot which we sold during the past season, 1907-8. This average amount received for every second foot that we sold was $1.05 per second foot for 24 hours, which made the value of this 125,000 second feet of excess loss due to a new canal to be worth $125,250.

Q. 100. In figuring the difference in value between an old and a new canal, in the figures that you have given did you take into consideration the fact that in the new canal the structures would, as you say, be more apt to blow than in the old canal?

A. I didn't consider that question at all, although it is a very vital question. It is one that we cannot actually reduce to dollars and cents.

Q. 101. And the fact that in a new canal the banks are more likely to be washed out and break and do damage—you didn't include that?

A. I didn't include that. That would be a matter of possibilities and probabilities that would be a little too complicated to reduce to figures.

Q. 102. It would be impossible, of course, to state it in figures, exactly what it would be?

A. Yes.

Q. 103. But is it or is it not the fact that that is the tendency?

A. It is a very well known fact.

Q. 104. And there is also a road all along the bank of this canal, is there not?

A. There is.

Q. 105. And you have not included in your estimate any increased value for that owing to traveling over it until it is all worn down, as over a new-thrown-up bank?

A. No, I considered no appreciation from those causes. The only appreciation I considered was the actual appreciation from the loss of the water itself, the actual loss that would take place in a new canal, due to seepage and evaporation alone."

At the next session Mr. Hammatt further testified on cross-examination as follows (Trans. pp. 580-1):

"XQ. 252. In regard to Exhibit 26, Mr. Hammatt, on the first page you have a column headed 'Appreciation of earthwork.' Take for instance the first item of that appreciation account, namely, 'Main Canal, $18,700.' Will you please state how you arrived at those figures of appreciation?

A. I arrived at the total appreciation of the canal system according to the method which I stated at the last session. And these separate ones for the different canals shown in the third column on the first page mentioned are the proportional amounts according to the amount of earthwork in each canal system.

XQ. 253. Will you please state how you arrived at the appreciation of the total earthwork of the canal.

A. I think I already gave that in detail at the other session, but I will go over it again.

XQ. 254. I mean the principle upon which you proceeded?

A. I considered that a new canal of the exact nature and size and dimensions of the canal system which we are speaking of would, during its first year, lose several times the amount of water

which the canal would after it had been in use a number of years; in fact, that it is now losing; and I took an arbitrary amount for the amount which it would lose, which I am positive, myself, and which I think that any engineer or layman who is familiar with new canals will see is less than the absolute amount which would be lost by a new canal of the same kind.

XQ. 255. What was that amount, that basic figure of loss by a new canal, that you took?

A. I considered that it would lose the first year three times the amount that a properly silted canal would lose, and that this amount would gradually approach the regular amount of seepage and evaporation which an old canal would have, arriving at that amount in, say, eight years; and that the total amount of loss due to a new canal could be represented as six times the amount which our present canal loses in one year; that that would be considered as the total amount which would be lost in those eight years in which the loss was going from three times the present amount, until it was arriving at the present amount.

XQ. 256. Then you took that loss and capitalized it?

A. Then I took that loss and capitalized it; that is to say, I considered that each and every second foot of that water would irrigate a certain amount of land, and that since we had a demand for all our water that the loss of that water was actually a loss of money, and that this money —that every second foot of that had a value equal to what we got for every second foot of that delivery during the year 1907-8, and that that amount was $1.05 per second foot."

On cross-examination counsel, after showing that the witness had never had occasion to estimate a loss by seepage and evaporation under conditions of climate

and soil existing under complainant's canal prior to going into the employ of the company, asked the following questions (Trans. pp. 581-2):

"XQ. 261. Now then, according to your theory of appreciation, you have allowed a certain amount on that, although nothing had been expended by the canal company on that account? Is that so?

A. Nothing has been expended on it.

XQ. 262. In other words, if one of the wooden bridges across the canal, long since its construction, had become petrified and had become a stone bridge, you think you also would be justified on the theory that you have advanced, do you not, of now valuing that bridge more as a stone bridge than as a wooden bridge? Is that it?

A. If anything so absurd had happened as a wooden bridge becoming a stone bridge, I certainly think it would have a greater value than it had when constructed as a wooden bridge.

XQ. 263. Although the canal company had made no investment at all on that bridge as a stone bridge?

A. That is the theory.

Mr. Treadwell: Do you deny the correctness of that theory, Mr. Langhorne?

Mr. Langhorne: I do. I would say it was absurd."

The defendant introduced no evidence whatever to contradict the testimony of Mr. Hammatt that there would be this loss of water in a new canal, thus making it less valuable than an old one, but on the contrary the defendants' testimony practically conceded the truth of this testimony, and when their engineer, H. H. Henderson, was on the stand they asked him no questions for the purpose of contradicting the *fact* that there would be such loss and that the canals would for that reason be less valuable, but they con-

tented themselves with asking the following questions (Trans. pp. 756-7):

> "Q. 57. Now, Mr. Henderson, there is, I suppose, in this canal a certain loss by seepage, is there not, of water?
>
> A. Yes sir.
>
> Q. 58. I ask you whether, in your opinion, any sum of money should be added to the value of these canals on account of or as representing in any way the loss of any water by seepage?
>
> Mr. Treadwell: We object on the ground that the question calls for a conclusion of the witness.
>
> The Master: I overrule the objection.
>
> A. If the valuation of the canal should be increased in regard to its cost or in regard to the value by the silting up of the canal to the extent of preventing further percolation, I should not think so, inasmuch as in the design of the canal it is one of the elements necessary to have the canal sufficient to allow for seepage and evaporation in order to irrigate a certain area; and in the construction of the canal to irrigate a given number of acres due consideration is given to that part of it; and, therefore, it follows that the original cost of the canal covered the feature of seepage, *and that afterwards if the seepage is reduced, it would simply give a greater earning capacity of the canal on the same investment.*"

This is all of the testimony on this subject. The master held, and we think correctly, that the answer of Mr. Henderson as above given necessarily showed that such appreciation should be considered in fixing value and rates, for, if a given canal has a "greater earning capacity" by reason of its age, it necessarily is more valuable, and the value of the canal and not the amount invested in it is the test in rate fixing cases. The fact that it has a "greater earning capacity"

necessarily shows it has an earning value upon which the complainant was entitled to a return. But, much to our surprise, the master held that the fact that such a canal would have a greater earning capacity for the reason that it would not lose so much water had not been proved, for the reason that the witness Hammatt, who testified thereto, was not sufficiently competent to testify on the subject, and therefore refused to consider any additional value growing out of this fact. It should be remembered that the evidence in this case was taken before the standing master as a referee by stipulation of the parties (Trans. p. 55 to 56). Under such a reference it is well settled that the referee has power to rule upon the admissibility of testimony. Most of the testimony of Mr. Hammatt on the subject was admitted without any objection whatever, and when the defendant did object to the testimony the master overruled the objection and permitted the witness to answer (see Trans. pp. 549 to 550). The court itself without any testimony would take judicial notice of the fact that a new canal would seep and lose water more than would an old one and the court would also assume that a person who had been educated as an engineer and had followed that for 15 years (Trans. p. 539), and who had been particularly engaged in canal work for at least a year before he gave his testimony, would be able to estimate in a general way the amount of such seepage. While he did testify that he could not give "exact figures" as to loss in a new canal owing to the fact that he had never made any measurements, he did testify without objection as follows:

> "Q. 51. Well, irrespective of the exact figures, are you able to approximate the difference in loss between a new canal and a well-silted canal, from the experience you have had?

A. I am able to assume it at a quantity which I am sure is less than the actual quantity. That is the best I can do.

Q. 52. That is, to a certain degree you would be able to give what would inevitably be the leakage and seepage in this canal if it were built and completed today and put into immediate operation?

A. That is what I meant to state, yes.

Q. 53. It might be greater than you estimate; but you mean that you can give an estimate which you are sure of?

A. Which I am sure would be the minimum quantity.

These questions and answers qualified him as an expert to give his opinion. The defendants if they desired might have cross-examined him for the purpose of showing that he did not have enough information to give any opinion, but they did not cross-examine him and the objection which they did make was properly overruled by the master. Under these circumstances we earnestly contend that it is improper to permit the defendants now to contend that the witness was not qualified to give an opinion on this subject, especially in view of the fact that the court will take judicial notice that there would be some additional loss and the defendant's own witness practically admitted the loss and simply attempted to give a legal opinion that such loss did not affect the income which should be allowed. The master having held that if this increased value was shown by competent testimony we would be entitled thereto and the defendants having withdrawn their exceptions to the master's report, it fill be unnecessary for us to argue the correctness of that ruling.

In a further attempt to justify the disallowance of any value due to appreciation, the master fell into a

peculiar error. He figured that during the seven years that the canal was reaching its highest efficiency there would be a large amount of silt deposited in the canal which he estimated might cost as much as ninety thousand dollars to remove. He then reasoned that this would not have to be removed, and the company would save the expense of removing the same, and therefore for some reason that should be set off against the increased value of the canal. Of course, when the witnesses refer to the fact that a canal by use will settle and that the "apertures between the clods" would fill with silt, and that the floor would settle and get well silted around so as to stop leaks, they did not mean that during that period they would permit the canal itself to silt up to an amount equivalent to one-fourth of the cost of excavating the canals. If the master's supposition is correct that the canals would have silt deposited in them to the extent mentioned, it would result that the cross-section of the canal would be reduced about one-fourth. Obviously this would have to be removed by the company at some time, and it has been removed because there is no silt in the canals (Goodwin, Trans. p. 315). It is also clear that the cost of removing the silt would be a cost of maintenance which would have to be paid, and presumably was paid out of the income of the company, and unless it was removed the canals would be depreciated in capacity, and therefore in value. In reaching his conclusion the master entirely failed to grasp the distinction between the floor of the canal being silted by having the fine material carried in the water deposited in the crevices of the coarser earth in which the canal was excavated and the deposit of silt in the canal itself so as in a certain extent to destroy the canal. All the evidence shows that this is a process which the canal company must guard against and the record shows a large amount of money an-

nually expended in cleaning the canal to get rid of the silt thus deposited. It therefore very clearly results that the company could not permit that class of silting to go on, but on the contrary that it must and has maintained the original cross-section of the canal. In fact, the defendants' own witness, Henderson, showed that the present size of the canal exceeded what he deemed to be the original excavation thereof (See Transcript p. 782). But the company would not make anything by the fact that it did not need to clean its canals the first few years, for that is a cost of maintenance and if not expended presumably the rates were reduced accordingly. The assumption, therefore, that the company profited thereby to that extent in the seventies cannot affect the actual value of the canals in 1907.

THE COURT ERRED IN MAKING A HORIZONTAL CUT IN THE VALUE OF THE STRUCTURES IN 1907 ON THE GROUND THAT SOME OF THEM HAD BEEN CONSTRUCTED MORE CHEAPLY IN THE YEARS 1896 TO 1898.

The master accepted the complainant's detail of the structures in the canal as prepared by Goodwin, but made a horizontal cut of twenty-five per cent in his estimate of the cost of reconstruction thereof. In doing so, the master based his decision on the fact that between 1896 and 1898 the complainant had constructed its Outside canal for considerably less than Goodwin's estimate of the present cost of reproduction. In reaching this conclusion, the master in the first place fell into a serious error of fact. The master assumed that the evidence showed that the actual cost of the Outside canal was $86,315.56, whereas Goodwin's estimate of its present value was $168,840.42. (See Trans. p. 71.) In this the master is clearly in

error. The evidence showed that the Outside canal was constructed in two sections, the first section running as far as Los Banos creek, and the second section running from that point to the present end of the canal at Quinto creek. The cost of the canal *to Los Banos creek* was $86,315.56 (Trans. p. 359), but the total cost of the entire outside canal was $149,960.77 (Trans. p. 359), and this did not include the cost of surveying, general superintendence or salaries of administrative officers (Trans. p. 371). Adding ten per cent (10%) to cover these items, would make the actual cost of the Outside canal, constructed between 1896 and 1898, $164,956.81. This is substantially the reproduction cost of it as estimated by Goodwin in 1907, his figures being $168,850.42 (see Trans. pp. 969 and 1042). The error into which the master fell was caused by the fact that he was comparing the present value of the entire Outside canal as estimated by Goodwin with the actual cost of the portion of the Outside canal to Los Banos creek, and basing his decision on this error he makes a horizontal cut in the present value of all of the complainant's structures. He also justified this cut by reason of the fact that the weir or dam across the river, built in 1898, actually cost less than the estimate of the cost of reproduction in 1907. The evidence shows that the weir actually cost $28,988.28, to which should be added ten per cent (10%) for engineering and general superintendence, making $31,887.11. The estimate of Goodwin as to its reproduction cost in 1907 was $54,046.50. While at first blush this would seem to be a considerable increase, as a matter of fact, in view of the increase in the price of labor and materials, no other result could be expected. In 1896 lumber in place cost about thirty (30) dollars a thousand (Trans.

p. 1216); in 1907 it cost about forty-seven dollars and fifty cents ($47.50) a thousand (Trans. pp. 553-4). In 1898 carpenter work was worth five (5) dollars a thousand (Trans. p. 1221), and in 1907 ten (10) dollars a thousand (Trans. p. 931). In 1898 redwood lumber was worth thirteen (13) dollars a thousand (Trans. p. 1217); in 1907, twenty-seven (27) dollars a thousand (Trans. p. 931). In 1898 piles were worth thirteen (13) cents a running foot (Trans. p. 1217); in 1907, twenty-five cents (25c) a running foot (Trans. p. 931). In 1898 freight and hauling to Mendota was worth eight (8) dollars (Trans. p. 1218); in 1907, ten (10) dollars (Trans. p. 931). As we have already seen, the cost of labor in 1907 was double the cost in 1898 (Trans. p. 316). In 1898 labor could be had from one dollar to one dollar and twenty-five cents a day (Trans. p. 317); in 1907 it cost two and a quarter a day (Trans. p. 979).

But in fact the master does not seriously dispute that the reproduction cost in 1907 will be the amount estimated, but he entirely repudiates the present reproduction cost. In this regard he says:

> "It seems to me that it does not necessarily follow that present cost of reproduction would always be present value. In a work of the magnitude and durability of the properties under consideration, the values thereof would not be materially affected by fluctuations of prices. In the course of a number of years the value of the plant might vary, but its value would not vary from year to year with the fluctuation of prices. In other words, if we assume a year of great financial depression, when the prices of labor and materials have become greatly lessened, caused by the some great calamity or abnormal condition which was clearly of a temporary nature, it could not be said that the values of complainant's properties had fallen

to the extent of such temporary decrease of labor and materials. For rates to be fixed on such a basis would certainly be most unjust and unfair to the canal company. On the other hand, if because of some reasons, such as actually took place immediately preceding the time that Mr. Goodwin's estimates were made, caused by the earthquake and fire of April, 1906, in San Francisco, the local prices of all commodities and labor was abnormally advanced, certainly an estimate based upon such prices and rates fixed thereon would be unjust to the consumer. So I conclude that 'present value' does not necessarily mean present cost of reconstruction. Although no testimony has been offered in this case tending to show to what extent prices were abnormal, in the fall of 1906, in this market at the time that Mr. Goodwin made his estimates, it is a matter of common knowledge that both labor and materials were unusually high." (Trans. pp. 76-77.)

It would seem from this that the Canal Company gets the worst of it both in years of depression and years of prosperity. In the years of depression when the rates were fixed in 1896 the property was valued for what it would then cost to reconstruct it, and then as prices gradually increased until the year 1907, we are told that we are not entitled to the benefit of such increase. It sounds very well for the master to say that it was unjust to have held us down in 1896 to the then low value during those years of financial depression, but the fact remains that we were held down, and, as we understand the decisions of this court, properly held down to the then reproduction cost of the property.

We submit that if this matter is to be judged by matters of common knowledge rather than by testimony, that the values of 1907 were more normal than

were the low values in 1896 and 1898. At any rate, during those years, values were lower than they had ever been or have since been since the Civil War, and how the values can be said to be abnormal in 1907 or normal in 1896 is difficult to understand. There is absolutely no evidence in the record that the earthquake and fire in San Francisco had any material effect on values or cost. However, we do not deem it very material to consider what is the cause of the cost of reproduction, as that might be due to a variety of things, but we simply submit that this has been held to be the proper basis of value, and it is not fair to apply that rule against the company and refuse to apply it in its favor.

We therefore believe that the lower court proceeded on an entirely improper basis in fixing the value of complainant's property, and that the case should be sent back to that court to make a valuation upon the proper basis. Under these circumstances it would hardly seem necessary to burden the court with the details of the testimony as to the present value of the property. However, we will briefly call attention to certain matters of importance.

The detailed estimate of the structures in complainant's canals was furnished by witness Goodwin, and is set forth in complainant's exhibit 1 at page 930, et seq. The court will note that this estimate was made by the same engineer who had been employed by the county in 1896, and the court will see the great care and detail with which this estimate is made. It begins with the structures at the head of the canal and follows down each canal, so that every structure can be located, the exact character and quantity of lumber and material therein, and the exact price of which the same is estimated is noted, so that there is little left in the way of estimate or supposition, and the master very properly said in regard to this report:

> "I am of opinion that the report of Mr. Goodwin was the more carefully made, that his experience as to the properties of this company was greater than that of Mr. Henderson." (Trans. p. 77.)

His valuations are also confirmed by the witness Hammatt (Trans. pp. 540-541).

The defendants called two witnesses on this subject, but it is obvious that neither of them can be relied upon to assist the court in arriving at the value of the property. The first one, Charles E. Sloan, only examined a portion of the canals, and his estimate does not cover the Outside canal at all. (Trans. p. 697). He had never built a ditch larger than twenty to twenty-five feet and half a mile long (p. 700). He was only a week or ten days on the canal altogether (Trans. p. 703), and the canal was full of water (Trans. p. 705), and part of the country overflowed (Trans. p. 706). He had never hired any men and therefore knew nothing about the cost of labor (Trans. p. 707), could not explain the meaning of his own report, nor nor had he bought any materials (Trans p. 707). He could he tell where any structure therein contained was situated (Trans. p. 708). His report did not include the five outlet canals (Trans. p. 709). He took the word of a man named Smith as to the personal property (Trans. p. 710). He did not examine the telephone system (Trans. p. 710). He had never operated a canal (Trans. p. 711), and did not know what a zanjero was (Trans. p. 712). He had never irrigated land (Trans. p. 713). He testified that he could not locate any of the structures contained in his report (Trans. p. 714). He testified that there was nothing in his report showing the value of any particular structure (Trans. p. 717). The report did not include the value of the right of way (Trans. p. 719),

or the interest on money spent in construction (Trans. p. 714). The only way he measured the cross-section of the canal was to stick a lath into the water (Trans. p. 718). It is not disputed that such a measurement is useless (Trans. p. 923), and it is admitted that no one could locate any of the structures contained in Sloan's report (Trans. p. 923).

It seems unfortunate that such evidence should be produced where the company had furnished the defendants with the most careful detail of its property, and this particular witness had that detailed report with him in making this examination, and still instead of checking that report and making one along the same lines, he brings in a report which no one can either understand, verify or check. However, as the defendants have never apparently placed any weight on this young man's testimony, we will pass it by without further comment.

The only other witness as to the value of structures was H. H. Henderson, and his examination likewise was made hurriedly during the trial, and did not cover anything like all of the system. His report did not include Dos Palos Canal No. 1, valued by Goodwin at $6,453.42; Dos Palos canal No. 2, valued by Goodwin at $13,265.23; Dos Palos canal No. 3, valued by Goodwin at $14,977.83; Dos Palos canal No. 4, valued by Goodwin at $9,321.54, and Orestimba Branch canal valued by Goodwin at $3,321, making a total of $47,339.02 (Trans. pp. 750-1). The report did not include the telephone system (Trans. p. 759), or the right of way of the company (Trans. p. 759). This report did not include any land (Trans. p. 799), or any interest during construction or any money necessary to be kept on hand to run the business (Trans. p. 799); nor did it include any value of any fences along the canal or the value of the roads along the

same (Trans. p. 800). It omitted the gates in Spillway No. 1, and the gates in Spillway No. 2, (Trans. p. 800). One place he admitted that 8,268 cubic yards should have been 82,680 cubic yards (Trans. p. 781). He allowed a flat amount of twenty-five (25) dollars a thousand for lumber, whereas the report of Mr. Goodwin shows each kind of lumber separately stated, and varying from twenty-seven, thirty and fifty dollars a thousand. (See Trans. p. 931). He admitted that lumber which he had bought had cost twenty-six to twenty-eight dollars a thousand (Trans. pp. 801-2). His account allowed no freight whatever although the item of freight on the headworks alone would exceed five thousand (5,000) dollars (Trans. pp. 802-931). He only allowed a flat figure for hauling, whereas Goodwin carefully estimated the price for hauling from each particular point (Trans. p. 802). The character of his work can be seen from the fact that he figured that the moment a structure was constructed it was immediately depreciated ten (10) per cent (Trans. p. 804). The absolute unreliability, however, of his estimates became obvious when his report on particular structures was compared with actual facts:

1. The headgate found in his report at station 0-30 (Trans. p. 1359) he estimated to cost $810 and that on the first of July, 1907, it had already depreciated ten per cent (10%). As a matter of fact it was not constructed until November, 1907 (Exhibit 33, p. 1710), and it actually cost $2,585.29, and this did not include any profit or any charge for general superintendence, but simply included the actual labor and materials (Trans. p. 918).

2. Weir, station 579-88 (Trans. p. 1364) he testified cost $601.50, and that on the first of July, 1907, it had depreciated eighty per cent (80%). As a matter of fact it was built in February, 1908, and was built

upon an old sub-structure, the superstructure alone costing $870.67 (Trans. p. 1210).

3. Weir at station 334-53 he testified cost $810.10, and that on the first of July, 1907, it had depreciated 20% (Trans. p. 1362). As a matter of fact it was not constructed until October, 1907, and had actually cost $2,444.55 (Trans. p. 1210).

4. Weir at station 3570-93 (Crow Creek weir), he testified cost $594.30, and that on the first of July, 1907, it had depreciated twenty per cent (20%). As a matter of fact it was not constructed until August, 1907, and it actually cost $1,039.58.

5. Bridge, station 0-42, he testified cost $390.50, and that on the first of July, 1907, it had depreciated twenty per cent (20%) (Trans. p. 1374). As a matter of fact it was not constructed until December, 1907 (Trans. p. 1210).

6. Bridge, station 252-73, he testified would cost $452.80, and that it had depreciated ten per cent (10%) on July first, 1907 (Trans. p. 1361). As a matter of fact it was not built until June, 1908, and actually cost $593.56.

(See generally as to these structures, transcript pages 917-919 and complainant's exhibit 33, page 1210).

These figures of actual cost did not include any profit of contractor or any general superintendence (Trans. p. 929).

It necessarily results from these considerations that the only reliable testimony as to the cost of the structures is the testimony of Mr. Goodwin. It should also be observed that the actual cost of lumber in all the structures that were constructed in 1907-8 was $29.05, a thousand (Trans. p. 1210), whereas Henderson only allows a flat rate of $25.

It should also be noted that although the defendants had the detail of our structures as prepared by Mr.

Goodwin, they deliberately got up Mr. Henderson's report so that it is impossible to compare any structure. In other words, it is impossible to determine from the report what structures in it correspond with the structures in Mr. Goodwin's report.

THE COURT ERRED IN REFUSING TO INCLUDE IN THE VALUE OF THE RIGHTS OF WAY THE COST OF FENCING THE SAME.

It appears that a portion of the complainant's canal has been fenced by the adjoining property owners, and it also appears that a portion of it is unfenced and was acquired by the company without being compelled to fence the same. It is clear that if the company or any other company proceeded to get this right of way it would be compelled to pay the land owners the expense of fencing the same, and this expense would be in addition to the value of the land itself.

Butte Co. vs. Boydson, 64 Cal. 110;
Sac. Valley R. Co. vs. Moffitt, 6 Cal. 746.

It would cost $42,471 to fence the canal rights of way (Trans. p. 599). It does not appear to us that it is material whether the company actually paid that amount when it acquired the right of way. The value of the right of way being what it would now cost to acquire it, is necessarily the cost of the land plus the cost of fencing the same, and this cost should therefore be added to the value of the land. This the court refused to do, on the ground that we had not fenced it. We had never claimed that we fenced it, but on the contrary claimed that we owned the right of way without any liability to fence it, and whether this is because we paid the land owners or were enterprising enough to get the land without paying for it is an immaterial factor in the case, since the law deals only

with the value of our property and not what it cost to acquire it.

The court therefore erred in refusing to allow this amount in fixing the value of the right of way.

THE COURT ERRED IN CHARGING THE COMPANY WITH THE RECEIPT OF THE FULL RATE FOR WATER FURNISHED TO MILLER & LUX UNDER SPECIAL CONTRACTS MADE IN CONSIDERATION OF THE GRANT OF IMPORTANT WATER RIGHTS, WHILE AT THE SAME TIME REFUSING THE COMPANY ANY RETURN UPON THE WATER RIGHTS THUS ACQUIRED.

Of course it is elementary that ordinarily if a canal company enters into a contract to supply water at less than the rate fixed by the public authorities, in determining the validity of the rate fixed the contract must be disregarded and the company deemed to have received the full rate established by law (*Boise City I. & L. Co. vs. Clark*, 131 Fed. 414); but if such contracts are entered into in consideration of the grant of valuable rights it would be extremely unfair to both charge the Canal Company with the receipt of the rate which it could not collect under the contract and at the same time refuse it any return upon the water rights acquired in consideration of the contract. In other words, if Miller & Lux had granted water rights to the Canal Company and the Canal Company had paid them a lump sum therefor, we would not deem any further extended argument necessary to establish that the company should receive a fair return on the money thus expended, or on the value of the property acquired therefor. Again, if the company acquired valuable water rights from Miller & Lux and in consideration thereof agreed to pay Miller & Lux an annual sum therefor by way of rental or installment, it would seem to be equally clear that the company would be

entitled to either a return on the property acquired or credited with the annual payments made. If this be true, the situation does not seem to be materially changed by the fact that instead of paying a lump sum for the rights or instead of paying an annual sum therefor, the Canal Company gave Miller & Lux certain concessions in the way of water rates and certain concessions in the use of water without charge. In such case, the company should also be entitled to a fair return on the water rights acquired, and if it receives that fair return it has no complaint to make even if it is charged with the receipt of the full rates for the water furnished in consideration thereof, but it does claim that it is highly unjust to charge the company with the receipt of amounts which it has not received and could not receive under its contracts with Miller & Lux, and still give it no return for the valuable water rights acquired from Miller & Lux.

CONTRACTS WITH MILLER & LUX.

We have set forth in the fore part of this brief at some length the substance of the contracts between Miller & Lux and the Canal Company. The first contract (complainant's exhibit 6: Trans. p. 1074) was entered into between Miller & Lux and the predecessor of complainant on May 18th, 1871, at a time when Miller & Lux had no control whatever over the Canal Company. (Trans. p. 345). It appears that Miller & Lux owned a large amount of riparian lands along the San Joaquin river and was therefore in a position to either permit or prevent the carrying out of this enterprise (Trans. p. 343). By that agreement, the Canal Company agreed to construct the canal so as to irrigate a certain amount of land. Miller & Lux granted them a right of way over their land; also permitted them to use all sloughs on their land, and also agreed to pay

a subsidy of twenty thousand dollars in cash. The Canal Company agreed to furnish the water and to furnish it for a price not exceeding one dollar and twenty-five cents ($1.25) per acre. It was further agreed that should the said canal diminish the natural overflow which usually occurs between the first day of April and the 15th day of June of the San Joaquin river and its sloughs upon said lands of Miller & Lux, that the Canal Company should between those months open the gates of its canal at the request of Miller & Lux, and, free of charge and expense to them, permit an overflow from the canal on their lands equal in quantity to that of which they were deprived (Trans. p. 1075-6).

The Canal Company further agreed to furnish proper bridges across the canal and also permitted the use of stock water free of charge.

This was followed by a subsequent agreement (Exhibit 7, Trans. p. 1077), dated February 7th, 1872, containing substantially the same provisions. This was also entered into at a time when Miller & Lux had no control over the Canal Company (Trans. p. 343).

It will be noticed that these contracts did not expressly provide how much water might be diverted by the Canal Company, but the capacity of the canal was about eight hundred (800) cubic feet, and on May 18th, 1899, Miller & Lux Incorporated entered into a further contract confirming that amount of water to the Canal Company (Complainant's Exhibit 10, trans. p. 1086). About that time the Canal Company desired to take out a new canal known as the Outside Canal, with a capacity of about three hundred and fifty (350) cubic feet, and Miller & Lux likewise granted them the right to divert this quantity of water (Complainant's Exhibit "10," pages 1086-7). It will also be noted that the early contracts pro-

vided for the use of surplus water in the canals in order to make up for the natural overflow on Miller & Lux lands, and in consideration of the grant of the right to divert this additional three hundred and fifty feet this right was again confirmed to Miller & Lux (Exhibit 10, pp. 1086-7).

Subsequently and on the 4th day of June, 1901, a further agreement was entered into between Miller & Lux and the Canal Company allowing the Canal Company to divert up to thirteen hundred and fifty (1350) cubic feet (Complainant's Exhibit 12, pp. 1094-5).

Like agreements were also entered into with the California Pastoral & Agricultural Company (Complainant's Exhibit 11, p. 1088; Complainant's Exhibit 12, p. 1094), that company also being the owner of large tracts of riparian land along the river (Trans. p. 349). It appears that ever since those contracts, there have been certain waste gates on Miller & Lux land, and whenever there was more water in the canals than was demanded by the public, it was turned out of these waste gates and was picked up and used on the uncultivated lands of Miller & Lux, the Canal Company receiving nothing therefor (Trans. p. 450). Even defendants' witness Rouse admitted that the water was never wasted out of the canal except when it was not required by other people (Trans. p. 653).

Notwithstanding these contracts which permitted the Canal Company to waste this water onto Miller & Lux's uncultivated lands, and permitted Miller & Lux to use it without charge, the court charged the Canal Company with $10,000 a year for this water, and likewise, notwithstanding the contract fixing the rate which the company could receive, the court charged the Canal Company with the full rate for water sold to Miller & Lux, making an additional charge over the amount

received of four thousand one hundred and eight dollars and sixty-five cents ($4,108.65), and at the same time refused to allow the company any return on the rights acquired by reason of these concessions. The only way in which it is sought to justify this course is that the early contracts of 1871 and 1872 did not, in terms, expressly grant any water rights to the Canal Company. It is difficult to see what bearing this would have in view of the fact that the latter contracts did expressly grant water rights and were expressly granted in consideration of a recognition of these rights of Miller & Lux under the early contracts. But however this may be, the case is simply in this situation: that the predecessor in interest of the complainant made certain contracts with the riparian owners; it appears without dispute that the water could not have been diverted without the consent of the riparian owners; that these contracts did amount to a consent by the riparian owners, and it is obvious that, as the subsequent contract shows, it was on account of this fact that these contracts were executed. At any rate, by reason of them the Canal Company did acquire these water rights, and having acquired them at the expense of the special privileges which were granted, it should either not be charged with the loss by these privileges or receive a return upon the property actually obtained in exchange therefor.

THE COURT ERRED IN ONLY ALLOWING THE AVERAGE MAINTENANCE SO FAR AS CANAL CLEANING AND LEGAL EXPENSES ARE CONCERNED, INSTEAD OF THE ACTUAL EXPENSES INCURRED DURING THE YEAR FOR WHICH THE RATES WERE IN FORCE.

The evidence in the case shows that so far as canal cleaning is concerned the company in this year actually

expended $15,760.44, and still it is only allowed $6,-074.23, for the reason that that was only the average amount expended over a long period of years. In the former case it appeared that the canals had not been cleaned for some years and the silting of the canals was then used as an excuse for depreciating their value to the extent of the silting, and no allowance was made for canal cleaning which in fact was not done. In the year in which these rates were in force, the canals were kept free of silt (Trans. p. 315), and still the court refuses to allow us the expense actually expended in keeping them in that condition.

It appears that the canal system of plaintiff has been gradually expanded and naturally the cost of moving the silt from the canal has correspondingly increased. Then again, it is not disputed that the cost of work of that kind has gradually increased, so that to allow the mere average covering a long number of years is not a proper method of arriving at the actual expense necessary in the year for which these rates were in force.

In the same way, in regard to legal expenses, it appears that the litigation in regard to the water rights of the company did not develop until comparatively late years, and during late years it has grown to immense proportions, and for this reason it is equally improper to only allow the company the average legal expense over a long period of years. It is obvious that if the company were attempting to sustain a rate established by it in the earlier years of the company, or was attacking the rate established by public authority, it could not ask a greater amount for canal cleaning or for legal expenses than it actually expended during the year when the rate in question was in force. The mere fact that at some future time the expense might be greater would be entirely immaterial.

Since it therefore could not get an average amount higher than the actual amount expended, so it should not be held to an average amount less than the actual amount expended in the year to which the rate actually applied.

CONCLUSION.

We recognize that this brief is somewhat more voluminous than we would like, but we trust that the importance of the case is a sufficient justification therefor.

We feel that the case should be reversed and remanded to the lower court to reach a determination in accordance with such principles as may be laid down by this court respecting the important matters involved therein.

Respectfully submitted,

GARRET W. MCENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,

Solicitors for Appellant.

ALDIS B. BROWNE,
ALEXANDER BRITTON,

Of Counsel.

IN THE

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1914.

No. 303.

THE SAN JOAQUIN & KINGS RIVER CANAL & IRRIGATION COMPANY, INCORPORATED (A CORPORATION), APPELLANT,

vs.

COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA, ET AL., APPELLEES.

ORAL ARGUMENT

OF

EDWARD F. TREADWELL,
For Appellant,

AND

JAMES P. LANGHORNE,
For Appellee.



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THE COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA, ET AL., APPELLEES.

WASHINGTON, D. C.,
WEDNESDAY, March 18, 1914,
12.30 o'clock p. m.

The above-entitled matter came on for oral argument.

Present: Mr. Chief Justice White, Mr. Justice McKenna, Mr. Justice Holmes, Mr. Justice Day, Mr. Justice Hughes, Mr. Justice Van Devanter, Mr. Justice Lamar, and Mr. Justice Pitney.

Present on behalf of the appellant: Mr Edward F. Treadwell.

Present on behalf of the appellees: Mr. James P. Langhorne.

Opening Argument of Mr. Edward F. Treadwell on Behalf of the Appellant.

Mr. TREADWELL: May it please the court, this is a case involving the validity of certain local rates, established by

ly

local authority, fixing the amount that the complainant should receive for the sale of water.

I wish to say to your Honors that, notwithstanding the apparent size of the record that is presented to this court, the facts are very simple. They are certainly very simple so far as they apply to this oral argument.

The CHIEF JUSTICE: You said "notwithstanding the apparent size of the record"?

Mr. TREADWELL: I say "apparent," your Honor, for the reason that we deemed it proper in a case of this kind, where the court has always held that it should have full power to review the case from the beginning to the end, notwithstanding the determination of the trial court, on account of the public nature of this case, we deemed it proper to bring the entire record before this court. So far as this argument is concerned, I shall state the facts, I think, inside of five or ten minutes.

As your Honors have recommended, the parties allowed these rates to remain in force for a year before the case was tried. As this court has also recommended, the case was tried by a special examiner, his findings were reviewed and modified by the court, and in that manner the final facts were found which are presented to this court.

By that process the court found the value of the complainant's property; it found that value after making many very serious reductions, which were seriously resisted by the complainant in this case. It found that value to be as follows:

It found the value of what might be termed the tangible property of the company, that is, its canals, structures, etc., to be substantially nine hundred thousand dollars. It found that the water rights owned by this company were substantially of the value of one million dollars.

In the same manner the court, after charging this company with the receipt of many thousands of dollars which it never received in fact, reached a conclusion as to what the income of this company was or should be, and in the same manner, after disallowing a great many thousands of dol-

lars which were actually expended in the conduct of its business, found the necessary amount to be expended by the company for maintenance, etc.

It is admitted, your Honors—it is admitted by all the parties here before the court—that upon the value thus found by the court, upon the receipts thus found by the court, and upon the necessary cost of maintenance thus fixed by the trial court, the return that these rates give is only a trifle over three per cent on the value of the property as fixed by the court.

It is admitted by counsel on the other side, as it had to be admitted, that, irrespective of any constitutional rights of the complainant in this case, under the terms of the statute of the State under which these rates were fixed, it was absolutely entitled to a return of at least six per cent on that value.

The question then arises, How was this extraordinary result reached? It was held in this way, your Honors, and this was the ground upon which it was based by the trial court, and the ground upon which counsel attempts to sustain it in this court: The court held that it did not make any difference how this company had acquired these water rights; it did not make any difference how much they may have cost the company to acquire them, it was entitled, under the laws of the State of California, to absolutely no return of any kind or character upon that valuable and important character of property.

So that the court may have no doubt as to the proposition that I present in this case I wish to say that counsel, on the arguments in the lower court, expressly stated—and he has stated in his brief in this case—that if the complainant in this case had gone out and condemned and acquired by condemnation the water rights which are involved in this case, and the value of which has been fixed, if the company had paid the judgment of condemnation in the sum of $1,000,000—he contended openly in the lower court and is contending in his brief here—that it would be entitled to no return whatever on the value of the property thus acquired.

If the court please, as I have said, that is the only question that I desire to argue on this appeal.

Mr. Justice McKenna: What is the foundation for the decision on that point?

Mr. Treadwell: I will come to that, if your Honor will permit me.

The appellant has asserted other grounds why this judgment should be reversed, but they are not questions which we deem easily or properly argued orally. We wish, with the consent of the court, to submit those questions merely on the briefs, which are very thorough indeed.

I wish to say further that, in view of the fact that the trial court found not only the existence of these water rights, but their value, in a manner that was entirely satisfactory to us, it is not necessary for us, at any great length, to either state to the court the value or the evidence that was introduced as to the value of these water rights or the manner in which they were acquired.

I may say, though, that the evidence in this case shows without any dispute, and it is not disputed in this court, that as early as 1871 this company commenced the diversion of water from the San Joaquin River; the evidence shows that from time to time, as the exigencies of the occasion required, it obtained from the various riparian owners along the river contracts which fixed its right to divert that water, regulated the measure of the right, and provided conditions upon which that diversion should be continued. It is admitted in this case that that was not only continued for the statutory period of five years, which would give a prescriptive right under the laws of the State, but it was continued for something like forty years before this case was tried and before the first ordinances were adopted.

It is furthermore shown in this case that finally when a riparian owner, with whom there was no contract, did object to this diversion, it was adjudged that he was too late, and that a prescriptive right to divert the water had been acquired against him by a diversion for the statutory period.

I will also say to the court that we introduced a great deal of evidence in order to fix the value of these water rights, and one class of evidence that we introduced as to the value of the rights was evidence which we held and thought tended to prove, and did prove, and which at any rate was introduced for the purpose of attempting to prove, what we actually paid for these water rights; and we contend now, and contended in the lower court, that that evidence shows that the water rights had actually cost the company, irrespective of maintenance expense to protect them against the assault of all the world—we contended that the evidence in this case actually shows the payment of something like $450,000.00 for those water rights. But I want to say candidly that counsel on the other side controverts that proposition. He controverts the proposition that they cost us anything whatever. So far as this oral argument is concerned, I would prefer that we should proceed on the basis that there is not any evidence as to what this cost was, because we introduced evidence as to the cost simply for the purpose of assisting the court and aiding the court in finding the value of this property. The court having found the value in a manner that is entirely satisfactory to us and satisfactory to the appellees, the question as to exactly what this cost was becomes an entirely moot and immaterial question.

Before presenting this question I also want to refer to one other matter in this case. In the lower court some very interesting, important, and difficult questions arose in regard to whether or not the complainant should be charged with certain sums on account of the fact that it had entered into various contracts with riparian owners by which these riparian owners, in consideration of certain rights which they granted, got certain special and reduced rates. Counsel for appellees contended in the lower court with great earnestness that those discriminatory rates must be disregarded and that the complainant must be considered to have re-

ceived the full rate, irrespective of those contracts. The lower court so held, your Honors, and upon this appeal to this court we are in no way questioning the correctness of the action of the court in charging us with all of the thousands of dollars which we did not receive, and which we could not receive under those contracts with those particular riparian owners along that stream. Notwithstanding the fact that in our brief we admit that, and state in as clear a manner as possible that we do not question the correctness of that matter, appellees' brief from one end to the other is full of argument upon those discriminatory contracts. I assume, and I certainly assume it honestly, that that was due to some misapprehension as to our contentions in this court, because counsel certainly did not put it in his brief for any other reason. We are perfectly willing to assume any blame for that misunderstanding; but we have stated in our reply brief, as we have stated here, that we in no way question the correctness of the ruling of the court on that subject, and it is folly to take the time of this court, under the circumstances, in discussing the question that these discriminatory contracts must be disregarded, and that we must be charged with any loss suffered thereby. Counsel for appellees have made that argument, and they have had the benefit of the argument in the decree entered in the case and in the findings that are here under review.

The question then arises, as suggested by Mr. Justice McKenna, What was the basis of this decision? I might say it is a somewhat extraordinary decision in this—that State courts or Federal courts, either in a condemnation there is not another case in the United States, either in the proceeding or in a rate-fixing proceeding, or any other kind of a proceeding, where such a rule has been enunciated. I want to say, further, that within three weeks after the decision in this case the very same court in which this case was decided, presided over, however, by another judge, notwithstanding the rendition of this decision, gave to another

water company, in fixing its rates, a valuation of many millions of dollars on its water rights, and by giving that valuation held that the rates established for that company were in violation of the Constitution of the United States, and held them to be absolutely illegal and void.[1]

In arguing this case I shall not say anything upon any general principles whatever, but shall come right down to the very propositions upon which the appellees base their contention, and the particular grounds upon which the trial court based it.

In the first place, they say that the waters of the State of California before appropriation, use, or diversion at all were public waters, and were the property of the people of the State of California. That is the very first proposition. Your Honors are no doubt considerably familiar with the different views as to water rights in the Western States. You no doubt have heard of what has been called the Colorado system, which system was enacted when the State was first brought into existence, and under which the waters were, in the most formal manner, declared to be the property of the State and to be public property.

Your Honors have also heard of another doctrine, more nearly the doctrine of riparian ownership, which is generally called the California doctrine, the doctrine that the property in the waters is not in the public; that it is not in the people; that it is not in the State, and never was; but, on the contrary, that the water is a part of the land; that it was first in the United States when the United States owned the land, not as a sovereign, but as a proprietor of the land; that when the land, to a certain extent, passed to the State, the water rights passed to the State as a proprietor, but not as a sovereign; that when these lands passed from either the State or the United States to an individual, the water, as a part and parcel of that land, passed to the individual. Not-

[1] Spring Valley Water Works vs. San Francisco, 192 Fed., 137.

withstanding this, your Honors, once in a while we do hear of some one making the loose statement that the waters are still the property and were the property of the people and of the public.

If there were any excuse whatever—and I presume there must have been—for the decision at the time that it was rendered in this case that the waters of the State of California were the property of the people or the property of the public, or the property of the State as a sovereign, there is no excuse for it at the present time. Since the decision in this case at bar the matter came up distinctly before what we call, in California, the Railroad Commission of the State of California. It is now a Public Utilities Commission, having charge of all public utilities in the State of California, whether they are locally situated or generally situated throughout the State. It is a board which has power to fix rates of all public utilities practically in the State of California.

Mr. Commissioner Eshleman, a very bright young lawyer and chairman of the Commission, had occasion to deal with this particular subject, and in just these few words he disposed of this, which I term a legal heresy, so far as the law of our own individual State is concerned. He says:

> "It has always been difficult for me to understand how such almost hopeless confusion should have been the result of these plain provisions of the constitution and the statutes, provisions so utterly unrelated; but we find the law writers and the court saying that the waters of the State belong to the public (as they do by the constitutional provisions in some of the Western States) by reason of the two sections of article XIV of the constitution which do not remotely bear on the subject."[2]

The parties were not satisfied with that, and probably properly not satisfied, it being only a high character of

[2] Palmer vs. So. Cal. Mountain Water Co., decision No. 418.

quasi-judicial board, and they therefore took an appeal in that case to the Supreme Court of the State of California. The Supreme Court, with a great deal of patience, it seemed to me, sat down and dealt with this subject, and again restated what the basis of water rights were in California, confirming the statement of the Railroad Commission, and finally stating their conclusion in this very brief language:

> "The doctrine that it is public water, or that it belongs to the State because it is not capable of private ownership, has no support in the statutes of the State or in any decision of this court."[3]

Mr. Justice HOLMES: What case is that?

Mr. TREADWELL: That is the case of *Palmer vs. The Railroad Commission*. Your Honors will find it in full as an appendix to our reply brief.

Mr. Justice HOLMES: Where is it reported?

Mr. TREADWELL: That is the reason it is attached as an appendix, because it is not officially reported. It was decided January 20, 1914. We have put into our brief a complete copy of it, from the title to the end of the decision.

Mr. Justice HOLMES: It is not reported in one of the reporter systems?

Mr. TREADWELL: No; it is not. That is the reason we have put it in in that way. We do have a local report, but I did not suppose your Honors would have access to that.

That, your Honors, is all I care to say on that foundation, and the principal foundation for this decision.

The second foundation upon which they base it is that they say that by some means, which I must admit I have never been able to have explained to me by counsel, the constitution of the State of California adopted in 1879, some seven years after these waters were first diverted, in some

[3] Palmer vs. Railroad Comm., decided January 20, 1914 (see appendix to appellant's reply brief).

way impressed those waters with a public use, and at the same time it impressed them with a public use it took away the property right in them and all right of compensation for anything that they impressed with that public use. They base that on this language of the constitution of 1879:

> "The use of all water *now* appropriated, or that may hereafter be appropriated, for sale, rental, or distribution, is hereby declared to be a public use and subject to the regulation and control of the State, in the manner prescribed by law."[4]

Then the constitution went on and provided that the rates at which that water should be rented, sold, or distributed should be fixed by boards of supervisors of the various counties, or otherwise as provided by law.

Now it is on that language, and that language alone, that the appellees here contend, and the trial court held that in some mysterious manner the constitution impressed these waters with a public use and at the same time took away from the owner the right to receive any compensation either then presently or thereafter in the payment of a rate for taking that water from them and vesting it in the public.

There are two things that your Honors should notice in regard to this provision. In the first place, it applied just as much to waters that were then in private ownership as it did to waters that might thereafter be acquired. I do not believe that it would be any great task to convince this court that the legislature could not simply, by its say so, take away these properties that were then in private ownership and vest them in the public without any compensation. But I say I do not wish to orally argue that proposition, because it would be unfair to the people who adopted the constitution of the State of California to say that they intended any such confiscation of private rights.

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[4] Cal. Constitution, Art. XIV, Sec. 1.

The second thing that is to be noted in regard to the enactment is this: Your Honors will notice it says "the use of all waters now *appropriated.*" It has been held, and it is admitted by counsel on the other side that it has been held——

Mr. Justice HUGHES: Where is that to be found?

Mr. TREADWELL: It is found on page 25 of the opening brief.

The courts have held that the word "appropriated" in that section does not mean appropriated in the sense of appropriating water from a stream. In other words, they have held that the word "appropriated" there means "devoted." In other words, they have held it does not make any difference to the water company acquiring those rights whether it acquired them by appropriation, followed by prescription against the riparian owner, or whether it acquired them by purchase from the riparian owner, or whether it acquired them by condemnation against the riparian owner, or whether it acquired them by purchase from some one else—it owns them. This constitutional provision is judicially held, and counsel admit that, to read as follows:

> "The use of all water now devoted, or that may hereafter be devoted, for sale, rental, or distribution, is hereby declared to be a public use and subject to the regulation and control of the State, in the manner prescribed by law."[5]

It is on that provision, which says that because you have water now which you have purchased and paid for, and because the State declares that that is a public use—they say that that took the ownership of the water away from us and vested it in the public, and also at the same time took away from us any right to recover any return upon it whatever.

Before citing the decision of the Supreme Court of California on this subject I want to say that there seems to be

[5] Merrill vs. Southside Irrigation Co., 112 Cal., 427.

some lack of appreciation between the impressing of property with a public use and the dedication of property to a public use. In other words, the owner is the only one that can dedicate a particular piece of property to a public use. It is not claimed that this company has ever dedicated this property to a public use, in the sense that it has given it to the public without compensation; but, on the contrary, the purpose of this company, from its very inception, has been to distribute it for gain and profit, and it has never attempted to give anything to any one or to give any of its property to any one without compensation. Nor is it claimed that it ever did so.

When you come to impressing property with a public use, any particular property, the owner is the one that impresses the particular property with a public use. All that the legislature does is to declare that certain things are public uses; that certain kinds of business constitute a public use, and then if the owner does engage in that business he *ipso facto* does impress that particular property with the public use which the legislature has fixed.

Mr. Justice PITNEY: The intention of the legislature was to lay the foundation for the use of the power of eminent domain.

Mr. TREADWELL: Yes. That contention is referred to by the court. They have all been granted the power of eminent domain. The Supreme Court of our State has time and again said that the only way that companies of this kind can get any water in the State of California is by the exercise of the right of eminent domain against the riparian owner, or by contract with him. They have time and again enjoined any company from taking any water away from the riparian owner.

I do not intend to say anything further about the construction of this constitutional provision, because it is admitted on all hands, or at least it must be admitted on all hands, that the Supreme Court of the State of California is

the final tribunal to construe the constitution of the State of California. That the Supreme Court of California has construed this constitutional provision, and construed it contrary to the decision in this case, is settled beyond any dispute whatever. Therefore, in citing the decisions of that court, I want to very briefly use the language of the Supreme Court itself, rather than my own language, so that there can be no question in the minds of your honors that I am stating simply the language of the court, and nothing else. As early as the case of the *San Diego Water Company vs. San Diego*,[6] the court took up this provision of the constitution and said:

> "In effect, the State may be said to have appropriated the water and the plant to public use. For that appropriation it is bound to make just compensation, and it has provided for such compensation by requiring the municipal authorities to fix just or reasonable rates at which the water is to be furnished to and received by the consumers. Since the State has 'taken' the use of this property, it is bound to provide a just compensation for that use, and Article XIV of the constitution must be construed as providing for that just compensation."

Mr. Justice HOLMES: Is that case in the One Hundred and Eighteenth California Report?

Mr. TREADWELL: Yes; 118 Cal., 556.

In *People vs. Elk River M. & L. Co.*, 107 Cal., 221, the court said:

> "Certainly it was not intended by that provision to appropriate such waters for the use of the public without compensation."

After that decision the matter came up before the Circuit Court of Appeals of the circuit in which the case at bar was decided in the case of the *San Diego Flume Company vs. Souther*, in the 90th Federal Report, 164, and the court said this:

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[6] 118 Cal., 556, 567, 568.

> "Corporations engaged in the business of furnishing water for irrigation, under the laws of California, whether they acquire the water by appropriation of the waters of the State or otherwise, are private corporations. They are nowhere declared to be public corporations or quasi public. * * * The use is public only to the extent that the corporation may be compelled to furnish the water, provided it has the capacity to do so, to all who receive and pay for the same, and that the rate of compensation shall be fixed by the law in case the parties cannot agree."

While the *Souther* case was pending in the Circuit Court of Appeals, and while that court was uncertain as to how it should be decided, in view of the fact that Judge Ross, of the Southern District of California, had the same view that counsel for appellees has, and he had decided the Souther case in the Southern District of California—while they were holding that case under advisement so as to get the very best law on it, the Supreme Court of California, in a decision in the case of *Fresno Canal Company vs. Park,* 129 California, 437, took up the whole matter and settled it in this language:

> "This contention"—referring to the contention that because these water rights were public property the Canal Company could not enter into a private contract with the consumer, fixing the rate at which he should receive the water—"rests on the proposition that * * * the Constitution gave the legislature power by inaction to destroy all property in ditches and *water rights* used for the distribution and sale of water. This proposition cannot be maintained. * * *
>
> "Is it possible that the Constitution intended to practically destroy or confiscate all this immense property or to allow the legislature to do it? It could not have accomplished this result within the principles of the Federal Constitution, and it is not to be held that it intended to do so unless the language of the Constitution leaves no doubt on the subject."

Now, the most peculiar thing is that, when the Court of Appeals in the *Souther* case came to decide the matter, it decided it on the ground that the Supreme Court of the State of California had given a final interpretation of this matter, that that was binding upon the Federal court, and it therefore followed that decision.

Still later the court, in the *Stanislaus Water Company* case[7] used this language,—I refer to the Supreme Court of California:

> "If the water right of the Stanislaus & San Joaquin Water Company was in private ownership and use at the time the Constitution of 1879 was adopted, we do not see how it could become dedicated to public use by the adoption of the constitution or at all, except by consent, express or implied, of its owners."

The Constitution of Idaho is exactly, word for word, the Constitution of California, and the Supreme Court of Idaho said in four lines, in the case of *Wilterding vs. Green,*[8] as follows:

> "The sale, renting and distributing of the water is a dedication and brings its use under control of the State, but it in no sense destroys or abrogates the property rights of the appropriator therein."

But notwithstanding all these decisions, this whole matter had to be taken up, in the last two years, before the Supreme Court of California again, for reasons which I will explain to your Honors in a moment; but briefly, because Judge Ross, of the Southern District of California, for whom I have the highest regard, has always had an erroneous impression as to the meaning and effect of this constitutional provision. It is not criticism to call attention to the fact that he has been time and again reversed in that opinion, but for some reason or other he seems unable to change it, as I will show your Honors in a moment.

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[7] Stanislaus Water Co. vs. Bachman, 152 Cal., 716.
[8] 45 Pac., 134.

In the case of *Thayer vs. California Development Company*, which was both in the Federal court and in the State court, the State court, in 164th Cal., 117, took this matter up again, and said:

> "The language plainly imports that the right, when acquired, is the property of the person who claims it, and takes the steps prescribed to gain it." That is referring to the water right of a public service company. "And generally, it is true that, even when property is dedicated or appropriated to public use for gain by persons or private corporations, the title and ownership is private and the only interest of the public is that of beneficiary of the use or trust. The property does not become impressed with a public use or trust until after the owner has first acquired it, and then dedicated it to the use. The acts of acquisition and of dedication, respectively, are distinct from each other. Technically, the latter must follow the former and cannot precede or accompany it.
>
> "An 'appropriation of water' under the Code is therefore not, *ipso facto*, a dedication or appropriation to public use. The additional act of dedication is as necessary to the creation of a public use in a water right so acquired as it would be if the right was acquired by conveyance or in any other manner, or as in the case of any other property dedicated to public use."

But, as I said, this matter was brought to the Supreme Court again in this *Palmer*[9] case, and they contended in that also that even if it was not public water before it was appropriated, it became public water after it was appropriated by a public service corporation. The Supreme Court again had to decide that, and they have decided it within the last month, saying:

> "It follows that they remain private property when they pass to purchasers, and that when they pass from

[9] Palmer vs. Railroad Comm., decided January 20, 1914 (see appendix to appellant's reply brief).

> the riparian owner to others by prescription, grant or consent, they do not by that transfer become impressed with any public use, and it still remains true that there must be a dedication to public use to divest the private right. They are no more public than is the land to which they belonged and of which they formed a part."

The matter also came before the Supreme Court within the last few months in regard to a public service telephone company, and it was contended to a certain extent that their property was public and in public ownership rather than in private ownership merely impressed with a public use with power to regulate and control. In fact, it was contended in that case that the railroad commission could practically take the telephone company's property away from it and turn it over to a rival concern for connections, etc. In the course of its decision the Supreme Court disposed of that in this language:

> "And finally, it may not be amiss to point out that the devotion to a public use by a person or corporation of property held by them in ownership does not destroy their ownership and does not vest title to the property in the public."

Mr. Justice HOLMES: Is that in your brief?

Mr. TREADWELL: Yes.

Mr. Justice PITNEY: What is the name of that case?

Mr. TREADWELL: *Pacific Telephone & Telegraph Company vs. Eshleman*, Mr. Eshleman being president of the railroad commission. It is in 137 Pacific, page 1119. I think you will find it in the reply brief.

That is all I care to say as to the determination by the Supreme Court of California of the meaning of this constitutional provision, except a few remarks as to one particular case decided by Judge Ross and relied upon by appellees, which I will come to later.

The next contention that they make in support of the contention that we are not entitled to any return is, that they say we are an agent; that the company is a mere agent of the public and is a common carrier of public property entitled to only a carriage charge, or the expense of carrying it, but entitled to nothing for the commodity which it furnishes to the public. In other words, they say that we are entitled to a return on the mere skeleton of our plant, but that the real life-blood of the plant itself, that which the public wants and desires, namely, the water, we are entitled to nothing for it at all, on the theory that we are an agent of the State carrying the water of the State.

Mr. Justice McKENNA: Their position is, that you are entitled to a return upon the amount of money put into the ditches, but you are not entitled to a return upon the water that you carry in the ditches?

Mr. TREADWELL: That is it. The contention of agency in this regard is extremely difficult to understand when applied to the State of California. In other words, the canal company, without seeking the desires of anyone, spends its own money, not the money of the State. After it has built its canal, if it loses the opportunity to divert water—and I will say there are hundreds of canals that have been built, and I do not believe I exaggerate, that have not been able to divert any water whatever—it loses its money. The State does not lose it. The State puts up no money; it does not control them in any way, shape or form, and still counsel says that we are an agent of the State.

Now, I will state to your Honors that under the laws of Colorado there would be some basis for this contention. As I have already stated, under the law of Colorado this water is public water, and the only water companies that are allowed in the State of Colorado are companies to "carry" water; not companies to own or appropriate water, but simply companies to "carry" water.

The difference between the law of California and the law of Colorado has been pointed out by the Supreme Court of California in the following language. Referring again to the *Park* case,[10] they say:

> "But the latter are, we think, mainly founded upon the provisions of the Constitution of Colorado, *materially different from the provisions of our Constitution on the subject,* which (the Colorado Constitution) declares that the water of all natural streams, not theretofore appropriated, is the property of the public."

The Supreme Court of Idaho, in the *Wilterding case,*[11] disposes of the matter in this way:

> "The marked distinction between the provisions of the Constitution of Colorado and that of Idaho will be apparent upon a slight inspection of the two. * * * The Idaho Constitution does not pretend or assume to control or interfere with private property rights in such waters, but declares the use of all such waters, whether theretofore or thereafter appropriated, a public use and under the control of the State. *The doctrine of the Colorado court, that the canal or ditch owned is a mere common carrier, could not certainly be predicated upon the provisions of the Idaho Constitution."*

Mr. Justice DAY: What is the source of this water supply?

Mr. TREADWELL: The San Joaquin River.

That same proposition was referred to in the *Souther* case,[12] where it was held that the Colorado Constitution was different from the California Constitution, and it was also referred to by the Railroad Commission in the *Palmer* case.

Notwithstanding that, your Honors, the decision in this case at bar directly bases its position on those Colorado cases.

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[10] Fresno Canal Co. vs. Park, 129 Cal., 437.
[11] 45 Pac., 134.
[12] 90 Fed., 164.

Mr. Justice PITNEY: I understood you to say that the time of the acquisition of the water rights is a part of the point you make; that they were acquired wholly or in part before the constitutional provision?

Mr. TREADWELL: That is part of my point, your Honor; that they were acquired as early as 1871.

That brings me to the next contention of counsel, and that is the reliance they place upon certain decisions rendered by Judge Ross, of the Southern District of California. I do not intend to take the time in this oral argument to in any way review those decisions, because that has been done in an entirely satisfactory manner in our brief. It is shown there that these decisions were first distinctly disapproved by the Supreme Court of California; secondly, they were distinctly disapproved by the Circuit Court of Appeals of the Ninth Circuit. Later, Judge Ross became a member of the Circuit Court of Appeals of the Ninth Circuit, and in a case that did not involve the questions at all, he again used some of the same language that had been disapproved by the Circuit Court of Appeals in the *Souther* case, and which had been disapproved by the Supreme Court of the State of California. As I say, in a case that did not involve the questions at all he reasserted the early view that he held on the subject as to the effect of the constitutional provision. Strange to say, while Judge Morrow, who decided the case at bar, was himself a member of the Circuit Court of Appeals that disapproved Judge Ross' early decision, followed the decision of the Supreme Court of the State of California, and held that he not only followed it because it was right, but because he had to follow it anyhow, because the Supreme Court of California was the final tribunal to say what the Constitution of the State meant; still, in the decision of the case at bar, he follows the decision of Judge Ross, which he himself had helped to overthrow and which the Supreme Court of California has time and again overthrown in its many decisions.

But there was one case by Judge Ross that requires particular treatment. That was the case known as the *National City* case,[13] in which the company made this, to me, rather absurd contention: The canal company in the *National City* case contended that notwithstanding that the board of Supervisors had fixed rates which the company might collect and that the ordinance was in force and was not questioned—but notwithstanding the ordinance, and taking no notice of it whatever, before a man could get water they could put an arbitrary exaction on him and make him pay a certain amount for what they denominated a "water right." In other words, they said they would make the consumer pay for the *right to receive the water* a certain sum which they would fix, notwithstanding the board of supervisors had established another rate for the receipt of the water.

That was all that was involved in the *National City* case. There was no question of the correctness of the decision—that the company had no right whatever to make that arbitrary exaction, because whatever we are to receive, or whatever any water company is to receive, is a rate that is established, and legally established, and the rate as established is supposed to take into consideration all the property, whether it be water or anything else, which the company has, and it must be sufficient to fully compensate it. For a company to come out and say to a man who is already entitled to the water, "Before you receive the water you have got to pay me something for receiving it, in addition to the established rate," is of course a proposition that could not be upheld for a moment.

I only refer to this because it was in that connection that Judge Ross held, and properly held, that there was no basis for a charge for *that kind* of "water rights." There undoubtedly was not. I refer to it particularly for the reason

[13]San Diego, etc., Co. vs. National City, 74 Fed., 79.

that the case was appealed to this court and the opinion was written by Mr. Justice Harlan. Mr. Justice Harlan was very careful to point out that the contention of the water company in the case was to make a charge *in addition to the rate fixed by the Board of Supervisors,* an arbitrary charge for the right of the consumer to receive the water, which right he undoubtedly had as a member of the public. That was reported in 174 U. S., 739.

The last point, and no doubt the word "last" will be welcome to the court, that they urged to sustain this contention is this:

They say that if the State should now seek to condemn our water rights the compensation which would be fixed would not go to us but would go to the consumers, or the public. Now, seriously, I suppose, they would also contend that if they condemned our canals and our rights of way and other properties, that, instead of paying us the damages that would be fixed, they also would go to the public. That, your Honors, is the statement in the opinion in this case and reiterated by counsel in this case, that if the State should now condemn, by the process of eminent domain, these property rights, which they admit that we own, we would not get the compensation fixed by the judgment of condemnation, but the consumers of the water, which are a part of the public—the plaintiff in that action—would get that compensation.

The CHIEF JUSTICE: We will suspend at this point until 2:30 o'clock.

(Whereupon, at 2 o'clock p. m., a recess was taken until 2:30 o'clock p. m.)

After Recess.

The court met pursuant to recess at 2:30 o'clock p. m.

Mr. TREADWELL: At the time court recessed I was just going to briefly refer to the suggestion made, that if these rights were condemned the compensation would go to the consumer and not to the company.

The company owns the legal title to this property, both its canals and its water rights, and it also owns the right to receive compensation for them in the nature of rates. That is the only property that the company has. They are already impressed with a public use. So far as the actual use of them is concerned, the public are entitled to that, anyhow.

If the rights of *the company* are condemned, namely, the legal title to the property, and also its right to receive compensation for the use of that property, why, it would simply be elementary to say that the compensation would necessarily go to the one that owned that particular property right. If some one should suggest that the right which the consumer has to receive this water could be condemned by the State, then it might be argued that they should receive compensation in case *that right* were condemned. It is hard to conceive of the State doing such a thing as condemning the right of a particular member of the public to enjoy this water. But assuming for the moment that the State should come in and attempt to take this water away, or the right to receive it, away from the particular community that is in fact enjoying it, and take it away to some other county or some other part of the State and give it to some other part of the community, I do not think it is necessary in this court to argue at this time whether or not the part of the public that is now enjoying it could be said to have a property right which could be taken away from it without compensation.

Of course, off-hand, under the decisions as they now stand, it would seem that they have not any property rights, but that simply as a member of a community they have the right to enjoy a thing that is impressed with a public use.[14] So far as the law stands under the decisions, it is not at all clear that it is a property right at all. If the State should do such an unheard-of thing as to condemn that right, why,

[14] Leavitt vs. Lassen Irr. Co., 157 Cal., 82.

I suppose it would necessarily follow, if it were a property right, that they would have to pay these people for it. But that is no answer to the proposition that, if they take *our* property, that which the decisions say is our property, and attempt to condemn *it* and take *it* away, they must necessarily pay us the compensation which the law entitles us to receive.

Those, your Honors, are the only points relied upon by the court or by counsel to sustain this position. Each one of them is answered by the decisions of the Supreme Court of California, and I will simply refer your Honors to those decisions.

I thank you.

ARGUMENT OF MR. JAMES P. LANGHORNE ON BEHALF OF THE APPELLEES.

Mr. LANGHORNE: May it please your Honors, according to counsel's statement, I am here to defend what practically amounts to highway robbery. But I submit, may it please your Honors, that there is a good deal in this case which counsel has not referred to.

While I have in my brief, and I will in argument before I am through, attempt to answer counsel's position as to the main point in regard to water rights, nevertheless I desire to call the court's attention to certain parts of this record which we claim will show conclusively that it is immaterial in this case whether or not these water rights were valued or not in the matter of fixing the rates.

In the first place, under the irrigation act, which is set forth as an appendix to our brief, it is provided with great particularity that the parties shall be fully heard before the rate-making board, namely, the supervisors of the three counties in this case, the counties of Fresno, Merced and Stanislaus.

This canal leaves or takes out of the San Joaquin River in Fresno County; it flows northwesterly at some distance from the river for a distance of about 75 miles. It has probably, with its laterals and parallel canals, an entire length of some 200 miles

Under the act of 1885, as I stated, there are provisions for the hearing of proceedings to fix rates. The property-owners, the irrigators or land-owners are entitled, by petition to the board of supervisors, to call the company before it to fix the rate. After the rates have been once fixed it is provided that they cannot be again fixed for a year. At the expiration of a year from the time the rates have been fixed either the inhabitants of the county or the canal company can petition the board of supervisors to fix the rates anew.

In this case the rates of 1896, in regard to the county of Stanislaus only, went before this court and were sustained by this court. That case is reported in the 192d U. S. After the decision in that case the three counties fixed the rates again in 1904. Then again, upon the application of the complainant in this case, the canal company, in 1907 the rates were again fixed, and those are the rates in this record and before this court.

The canal company appeared before those boards, and the proceedings before those boards are in this record. We introduced those proceedings before the master in chancery in this case for the express purpose of showing that they made no mention or reference to water rights, as they had not done in the pervious case. They came to this court in regard to the rates of 1896 and there was not a word of testimony or of argument with reference to any water right; there was not any claim that they owned any water right, and absolutely no testimony or showing before the rate boards as to the value of any water rights.

The proceedings before these boards are set out in the record. They were introduced, commencing at page 642. Counsel here present was there at the time and they were introduced before the master. Counsel was asked by me, "You do not object to the introduction on the ground that the document does not properly represent what was done, do you?

"Mr. TREADWELL: No; subject to my objection that it is improper testimony and irrelevant and incompetent to this proceeding. Of course these particular papers I am going to admit show the proceedings that did take place without the production of the certificate, copy or copies, or any other evidence."

This evidence itself is contained in volume 2 of the record and is certified to by the short-hand reporter that took the proceedings as being a full copy of all the proceedings. There is not a word in these proceedings before these boards,

not a claim made by this company that it owned any water right or that it had any value.

In a brief that counsel has filed here a few days ago he intimates that certain documents were filed which showed that they had paid $112,000, when this company bought out another company, for certain water rights. But counsel is mistaken about that. Reference to the proceedings before the boards of supervisors will show that their secretary testified that the original cost of the plant was something like $1,000,000, and the statements that counsel refer to were not introduced until the trial before the master in the circuit court. Those statements, if they had been introduced before the supervisors, would not have helped counsel out in that regard. The item that he relies upon as having been paid for water rights, $112,000, was paid to John Bensley for water rights, etc. Other portions of the record show that that $112,000 was not only paid for water rights, but for construction. So there is really nothing in the record to show that anything was paid for water rights.

But the point I make at this time, may it please your Honors, is this: Here is an attack upon a rate order made by the board of supervisors authorized by law, upon application made by the canal company itself, where they appeared with their witnesses and counsel and where the record of the proceedings before that board show that they put in testimony as to the original cost of the canal, as to the cost of reproduction, as to the value of their rights of way, as to the amount of acreage, as to the receipts, and, in fact, as to everything with the exception of water rights.

Mr. Justice HUGHES: Did they submit any schedule of property on which they claimed a return?

Mr. LANGHORNE: No; they did not. The secretary testified that the old books of the company, which had been destroyed, showed an investment of something like $1,000,000; that is, a cost investment. They produced Mr. Goodwin, who had made an examination and physical valuation of

the canal, which is the same as Exhibit 1 in this record, showing the cost of reproduction——

Mr. Justice VAN DEVANTER: Are you speaking now of the proceeding before the board?

Mr. LANGHORNE: Yes; of the proceeding before the board of supervisors.

Mr. Justice VAN DEVANTER: What did this $1,000,000 consist of; or was that shown?

Mr. LANGHORNE: It was not shown.

Mr. Justice VAN DEVANTER: Was it shown whether that did or did not include water rights?

Mr. LANGHORNE: No; just the mere statement.

They also introduced testimony as to the acreage irrigated for several years and also introduced statements in regard to their maintenance accounts.

The point I make is this, may it please your Honors: Here is a board organized by the State for the very purpose of fixing these rates. They initiated this proceeding upon their own motion; they introduced testimony presumably of everything they owned. They knew what they possessed. The board of supervisors did not know what property they owned, and they were not supposed to know it. In attacking the order that the board made, it seems to me that we are entitled to rely upon the record that this company itself made before that board.

Mr. Justice MCKENNA: Was that petition for an increase of the rate?

Mr. LANGHORNE: No; not an increase. They petitioned to have the rate changed, and it possibly amounted to that.

Mr. Justice PITNEY: How was this matter of the withholding of evidence or the refraining from introducing evidence before the commission as to their investment in water rights dealt with in the pleadings in this case and in the master's report?

Mr. LANGHORNE: It is not referred to at all in the pleadings or in the master's report.

Mr. Justice McKenna: How does it become important, then?

Mr. Langhorne: Well, for this reason: This court has said in a number of cases, and we claim that they cannot come in with a bill of equity in the United States court and claim that the rates of the boards of supervisors should be set aside because they were not allowed a valuation for their water rights when it appeared they never presented that question.

Mr. Justice Van Devanter: You are relying on some cases relating to proceedings before the Interstate Commerce Commission where it has been stated that they must make a fair showing before that body, and if they do not they cannot make it in the first instance before a court.

Mr. Langhorne: There is a decision to that effect, which I have not in my brief, in the 227th U. S., page 88. I was referring especially to the case of the *Home Telephone and Telegraph Company* against *Los Angeles,* 211 U. S., 265, where this court refused to restrain the enforcement of a rate ordinance. Among other things the court said:

> "It is to be taken into account in considering this, as well as other questions, that the appellant has declined to furnish to the council facts within its knowledge which would enable the council to exercise their powers intelligently and justly."

In the case of *Knoxville vs. Knoxville Water Company,* 212 U. S., page 1, the court, at page 18, speaking of the regulation of public-service corporations, said:

> "It is a delicate and dangerous function, and ought to be exercised with a keen sense of justice on the part of the regulating body, met by a frank disclosure on the part of the company to be regulated."

I cannot see, may it please your Honors, how they have any standing at all in a court of equity to attack those rates when the record shows that they have never introduced a

word of evidence or referred to it in any manner, shape or form.

Mr. Justice PITNEY: How did the circuit court come to make a finding on the subject?

Mr. LANGHORNE: There is no express finding on it.

Mr. Justice PITNEY: I understood from what your opponent stated that there was.

Mr. LANGHORNE: They did not set up in their complaint that the water rights had any special value——

Mr. TREADWELL: Yes, we did.

Mr. LANGHORNE: I am mistaken about that. It was $760,000 and the referee found that it was somewhere between $900,000 and $1,000,000. The circuit court judge affirmed that finding, but allowed them nothing on account of water rights.

Mr. Justice MCKENNA: The rates are allowed by the boards of supervisors of the three counties?

Mr. LANGHORNE: Yes.

Mr. Justice MCKENNA: Did they estimate for the water rights——

Mr. LANGHORNE (interrupting): No, sir.

Mr. Justice MCKENNA: Was the rate they allowed a fair return upon the showing that you say the company did make?

Mr. LANGHORNE: Yes.

Mr. Justice MCKENNA: They claim three per cent. What do you say about that?

Mr. LANGHORNE: The referee found that the income from the rates was 7.7 per cent.

Mr. Justice MCKENNA: On the property which they exhibited?

Mr. LANGHORNE: Yes, sir; the property which they exhibited before the rate board and also the property which they exhibited before the circuit court, leaving out the water rates.

Mr. Justice VAN DEVANTER: Did this board have a continuing power so that they could go before the board today and represent that the water rights were omitted and should be included and the rates adjusted accordingly; or has the board the power to entertain such an application?

Mr. LANGHORNE: There is no provision in the statute for a rehearing before the board, but they may come up the next year. These rates are in force for a year. They can renew their application at the end of the year. The statute expressly provides that.

Again, in the case which counsel has referred to, *San Diego Land Company against National City*, in 174 U. S., 739, it was stated (this has reference to fixing rates in California):

> "The Constitution does not contemplate any such mode of fixing rates. It is not a matter of guesswork or an arbitrary fixing of rates without reference to the rights of the water company or the public. When the constitution provides for the fixing of rates or compensation, it means reasonable rates and just compensation. To fix such rates and compensation it is the duty and within the jurisdiction of the board. To fix rates not reasonable or compensation not just is a plain violation of its duty. But the courts cannot, after the board has fully and fairly investigated and acted, by fixing what it believes to be reasonable rates, step in and say its action shall be set aside and nullified because the courts upon a similar investigation, have come to a different conclusion as to the reasonableness of the rates fixed. There must be actual fraud in fixing the rates, or they must be so palpably and grossly unreasonable and unjust as to amount to the same thing."

Again it is said:

> "The board of supervisors, town council, board of trustees or other legislative body of any county, city or town are hereby authorized, and it is made their duty, at least thirty days prior to the 15th day of January of each year, to require, by ordinance or otherwise, any corporation, company or persons supplying

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> water to such county, city or town, or to the inhabitants thereof, to furnish to such board or other governing body in the month of January of each year, a detailed statement, verified by the oath of the president and secretary of such corporation or company or of such person, as the case may be, showing the name of each water-rate payer, his or her place of residence, and the amount paid for water by each of such water payers during the year preceding the date of such statement, and also showing all revenue derived from all sources, and an itemized statement of expenditures made for supplying water during said time."

It was the right and duty of appellant—that is the water company—in January of each year to make a detailed statement under oath showing every fact necessary to a proper conclusion as to the rates that should be fixed by ordinance.

Mr. Justice DAY: What are you reading from?

Mr. LANGHORNE: I am reading from the case of *San Diego Land and Town Company vs. National City.* This, of course, relates to rates fixed by a municipality.

I call your Honors' attention to this case in support of the preliminary point we make here, and that is that they have no standing in a court of equity to attack these rates upon that ground. They might as well have come before that board and left out half of their property or half of their tangible physical properties and then have appealed to the Circuit Court of the United States and said that the board's order is void because confiscatory and unreasonable. If it was confiscatory and unreasonable it was not the fault of the board, but solely the fault of the water company.

There is another preliminary point to which I wish to refer your honors. This case is peculiar in another respect.

In 1871, as this record shows, the canal company made certain contracts with the firm of Miller & Lux by which, in exchange for rights of way over the land of Miller & Lux in those counties, the water company agreed to give Miller & Lux water for their lands at a certain specified rate less than those paid by other parties.

Some differences seem to have arisen between the water company and Miller & Lux, and the result was that the water company sued Miller & Lux for $70,000 on account of unpaid water rates. At that time I think Miller & Lux owned, if any, a very small part of the capital stock of this company. While that suit was pending Miller & Lux acquired 80 per cent of the stock of this water company; they acquired control of its board of directors. What was a partnership in 1877, of Miller & Lux, is now a corporation, I believe, under that name. The president of both corporations, that is the water company and Miller & Lux, is the same individual; the vice-president is the same individual; the secretary is the same individual, and the engineer who measures the water consumed by Miller & Lux and sold to it by this canal company is also the engineer for Miller & Lux. I do not think, may it please your honors, that there could be presented any better case of interlocking directorates and officials than is presented by this canal company, the complainant in this case, and this concern of Miller & Lux.

The record also shows that for the year that these rates were under investigation, namely, for the year ending July 1, 1907, there were 113,000 acres of land irrigated by these canals. Of that land Miller & Lux irrigated, cultivated lands, 58,952 acres; of grass and pasture lands, 20,000 acres. All other consumers, other than Miller & Lux, irrigated 34,050 acres. You will see that Miller & Lux, of the entire irrigation, irrigated 69 per cent. The company actually collected $107,409 for that irrigation, of which $51,480 was paid by Miller & Lux and $55,928 by other consumers. So that while Miller & Lux irrigated 69 per cent of the entire irrigation, they actually paid for less than one-half of the entire gross revenue. This, may it please your honors, was because of these discriminating contracts that were made by Miller & Lux, who owned 80 per cent of the stock and who controlled the board of directors and officials of this water company.

The claim was made in this case that these water rights that we have been hearing about were paid for to Miller & Lux by these rebates given to them by the water company. While I understood counsel in his opening argument to abandon that claim, nevertheless his brief is to the point that they amounted to something like $450,000 which they claim they have paid, and that these rebates were really on account of water rights.

The master in chancery devoted a great portion of his report to that question. He found, and his finding is unquestionably supported by the evidence, that those rebates were not granted at all for water rights; that not one of these contracts granted this canal company any water right from Miller & Lux in consideration of any rebates.

The first contracts made provided that these rebates were on account of rights of way granted to the canal company over the lands of Miller & Lux, and in this case that has been fully covered and provided for, because the master has allowed the canal company a valuation of $144,000 on account of these rights of way, rights of way which at the beginning were not worth over $2.50 an acre, and yet the master has allowed them rights of way at the increased value of the land, and the land has increased in value solely because of the building of the canal. The result is that those contracts, may it please your honors, have no time limit at all. Like Tennyson's brook, they may go on forever and forever.

Counsel argues in his brief, although there is no testimony to support it, that if you add a certain per cent per year, based upon what that amounts to per year, that therefore the principal of these sums would amount to some $450,000. That is merely an ingenious argument and assumption of counsel in this matter.

Now, then, what is the result? Both the master and the court in this case applied these rates and have charged the canal company, in estimating the income which the canal company would receive under the rates—have charged the canal company as though they had received the full amount

of the rates from Miller & Lux, bringing the total revenue which would have been received under those rates up to $136,000. As a matter of fact the canal company failed to receive $27,000 of that, or about 25 per cent.

I know in a number of cases in this court it has been shown that in a few instances certain rates less than the rates fixed had been given to certain consumers, and the court has held that it was proper in a case of that sort, in estimating the revenue that the company received, to figure the whole thing as though the company actually received that revenue, although it had given these rebates. But, may it please your honors, there is no such case as that presented by the record in this case. No case has come before this court where 25 per cent of the entire revenue is not collected. But not only that, here is a case where the company cannot collect it under these contracts.

So I say they have no standing in a court of equity or in a United States court to say that they are deprived of that income from these rates when they have by their own act made contracts with their controlling stockholder, putting it beyond their power to collect the rate.

As I understand, the constitutional guaranty that they could not be deprived of their property without due process of law, applies to substantive property and they must show to this court that they are materially injured; they must show that the application of these rates that they complain of actually deprives them of something—of money; but this record does not sustain that position at all. This case is a sham battle really in regard to that, because no matter what this court might hold they cannot, under these contracts, collect 25 per cent of the rate which they are attacking here as insufficient.

I respectfully submit to your honors that this case is unprecedented and is anomalous in its character; that they have no standing and should have no standing in a court of equity to complain of the rates as being confiscatory and not giving them 6 per cent, under the statute of California

upon which they rely, when they have themselves placed it beyond their power to collect 25 per cent of those rates, amounting, under these particular rates, to the sum of $27,000.

Counsel, in his brief, which he filed yesterday or today, I suppose, criticises us for making the claim in regard to the water rights that they paid nothing for the water rights, and that the record showed they paid nothing for the water rights, saying that we have taken the position that the matter of estimating rates should be based not upon the investment but upon the cost of reproduction less depreciation, etc.

Our answer to that is that we made the claim because they, in their brief, strenuously made the claim that they were entitled to a return upon their water rights—in other words, they made the claim that they should be valued in this proceeding because they had made these payments. They made the claim, and naturally we replied to that position. But your honors will clearly see, and it is not necessary for me to dwell upon it, because it appears with great clearness in this record that they have never paid a cent for these water rights.

Again counsel, in arguing the question of water rights, attempts to have it appear that we rest our position in regard to that matter upon the proposition that the waters of a public stream in California are public waters. It is true we have referred to that matter in our brief, but it is not an essential thing at all and our case does not depend upon that. The waters referred to in this case, which the complainant has, it never paid for and it took from the San Joaquin River without any formal acts of appropriation—that is, there is no evidence that they ever posted any notice as required by the statute of California. That, of course, is not necessary, under the laws of California, to constitute a valid appropriation. At any rate, they simply went to the river, built their dams, their head-works, and their ditches, and took the water which they wanted, and all that they wanted, without objection from any one.

It appears in many places in the record, and on page 18 of our brief we refer to the testimony of their own witness, Mr. Merritt, the secretary, who swore that for eighteen or twenty years the complainant had been taking water from the river, openly claiming the right to do so, adversely to everybody, and without asking any one's permission to do so. So that this water right which they are talking so much about, or the right to take water from the river and use it, never costs them a cent. They simply took it. Nobody objected, and their title, under the laws of California, rests upon a title by prescription. It is immaterial whether we call it "public waters," "riparian waters," or any other kind of waters. They took the water and they used it, and nobody can stop them from using it.

Mr. Justice McKenna. Is not that a good title?

Mr. Langhorne. A perfectly good title.

Mr. Justice Pitney. The master seems to put it upon the ground that, while they acquired the right as against other proprietors to take it, they acquired it not as a private right, but as a right of public distribution.

Mr. Langhorne. Yes; that is true.

Mr. Justice Pitney. That they acquired it in the capacity of a public administrator.

Mr. Langhorne. Yes.

Mr. Justice Pitney. And not a private right in their hands——

Mr. Langhorne (interrupting). Yes; that is so, may it please your honor, because the company by its articles of incorporation—it has been incorporated several times, but it has always stuck to its original articles under the old act of 1853, I think. It even went some years ago over into Nevada. The present concern is a Nevada corporation, where they could not get any water to save their lives for any purpose. They still stick to the old articles of incorporation, which show upon their face that they did not acquire these waters for any private right at all, but for the

purpose of selling and of operating a canal for a public purpose; for the purpose of selling waters to the inhabitants of these counties, and for irrigation. Their first acquirement of these waters by prescription was not for any private right at all. From the very first incorporation of this company; from the very first taking of the water from the San Joaquin River it was a public dedication by them. There was no reservation of any private right, but it was a dedication to the public for sale and distribution. This company is not a riparian owner and has no rights as a riparian owner.

Mr. Justice VAN DEVANTER: What is it that they sell?

Mr. LANGHORNE: Under the law they sell water, at least that is the way our constitution provides, that rates can be made under which they can sell water.

Mr. Justice PITNEY: They sell water service? Not water in bottles, but water service.

Mr. LANGHORNE: Yes; for irrigation. This company is almost entirely an irrigation company. I do not think it serves any households for domestic purposes. They do sell some water to water companies in some of the towns on the lines of the canals, but these sub-companies sell it to the inhabitants, and, so far as the record in this case is concerned, it is an irrigation company.

Now, with reference to the case which counsel has referred to and in which he has so much confidence. I refer to the case which he says has not been reported, but is contained in his brief.

The question in this case of *Palmer against the Railroad Commission of the State of California* was this: When this company filed its notice of appropriation it designated certain places at which the water was to be used. After it got the water it changed the places of the use of the water because it did not have enough water—in other words, it confined the use of the water to a certain district. After that was done the people living in these other places that had been designated in the notice of appropriation came before

the Railroad Commission, and finally the case came before the Supreme Court of California. They claimed that inasmuch as this water company, in its notice of appropriation, had designated these places they were bound to serve them, and they took the position that the waters that had been appropriated by this company were public waters, and so on. In the course of its decision the court decided that, notwithstanding the fact that they had named these places, nevertheless they had the right to subsequently confine the water—if they did not have enough water—to another district. That was all that was decided in that case.

Mr. Justice HUGHES: What is this water right that is spoken of? Is it just the water as distinguished from all the works that are used in the distribution?

Mr. LANGHORNE: The water right, as we understand it, is a right to use the water.

Mr. Justice HUGHES: I mean the water right that is sought to be valued here as a part of the property. What is that right, precisely?

Mr. LANGHORNE: That is the right to use the water on the land. I am coming to that, may it please your honor.

Mr. Justice DAY: What do you do? Do you build canals to the river?

Mr. LANGHORNE: We put in a dam in the river and turn the water into a canal. Then we carry that water away from the river onto lands——

Mr. Justice HUGHES: You mean it is the right to take a certain quantity of water from a certain point?

Mr. LANGHORNE: To take a certain quantity of water from a certain point and use it on the land.

Mr. Justice VAN DEVANTER: And in this case to sell it to others to use?

Mr. LANGHORNE: Yes. If a private individual takes water to be used, either as a proprietor or to sell to the public, he is only entitled to take the water that he can use. The right of diversion from the river is dependent upon the beneficial use to which the water can be put.

Mr. Justice DAY: You put a dam in the river to store a certain portion of the water and then you have a distributing system by which you carry it over the land?

Mr. LANGHORNE: Yes. You can take no more water out of the river than you can beneficially use. For instance, you cannot dam the whole river and claim that you own all of that water in the river, unless you could use the water either upon your own land or sell it to some one else. You cannot just store it there. There has got to be a beneficial use of the water.

The CHIEF JUSTICE: In that sense the water right, or your power to take the water, is not confined to water for your own beneficial use, but you take it in view of the fact that you intend to distribute it to other people for their beneficial use.

Mr. LANGHORNE: Yes. A water right, as we understand it, is really a right to use the water. In other words, there is no water right unless it has reference to this beneficial use upon the land or for household or domestic purposes.

Counsel, in arguing this question in regard to this water right, outside of the question as to whether they paid anything for it—and the record shows that they paid nothing——

Mr. Justice DAY (interposing): The law regulates the amount that you can take?

Mr. LANGHORNE: Yes; the law practically regulates that.

Mr. Justice MCKENNA: You say that they paid nothing. You also say that they have a title by prescription. That is a good title?

Mr. LANGHORNE: Yes.

Mr. Justice MCKENNA: If a man should get a piece of land by prescription, could it be taken away from him because he paid nothing for it?

Mr. LANGHORNE: Probably not; but water stands on a different basis in California than other property in that respect.

Mr. Justice McKenna: My statement was addressed to your observation that they had paid nothing for it, and yet have title to it by prescription——

Mr. Langhorne: Yes, that is true.

Mr. Justice McKenna: I do not understand that.

Mr. Langhorne: One of the arguments in this case which we attempted to meet was that the water right should have been valued in this proceeding as a basis for fixing rates, because they had paid for it.

The Chief Justice: You said they never took the water at all in the sense of becoming the owner of it.

Mr. Langhorne: No.

The Chief Justice: That they simply had the right to take the water upon the condition that they would apply it to a beneficial use.

Mr. Langhorne: Yes.

The Chief Justice: They had the water, but it was not theirs; it was coupled with a limitation.

Mr. Langhorne: Yes.

The Chief Justice: Which limitation prevented them from ever having title, but simply giving them the power to use it?

Mr. Langhorne: Yes.

The Chief Justice: And if you paid them for that you paid them for a thing that they did not own?

Mr. Langhorne: Yes. In regard to this point, counsel has referred to a good many decisions as though this question had been decided by the Supreme Court of California.

Mr. Justice Day: Would not the right to take the water and make that use of it be a property right and a valuable right?

Mr. Langhorne: It would be if a private individual should take it, but not for a water company, after it is dedicated to the public use. That is the distinction.

Mr. Justice Hughes: Your contention is that they had no water right whatever except the right to distribute the water? In other words, that they did not use it for a ben-

eficial use themselves, but acted as a carrier and distributor of it and their right was a distributing right.

Mr. LANGHORNE: That is practically what it is; yes.

Counsel has referred to a number of cases in the States of California and Idaho as though those cases had decided this point. None of those cases has ever passed upon this point; not one of them. This question which is presented here before this court has never been before the Supreme Court of the State of California. The only case that has been decided is the case referred to by counsel, decided by Judge Ross, which is on my brief, and in that case Judge Ross squarely held that they were not entitled to charge—that is, the water company was not entitled to charge for a water right, because he said they had undertaken to dedicate the waters to a public use; that they themselves assumed that position, and no authority can anywhere be found for any charge for the so-called 'water right.' The State permitted the water in question to be appropriated for distribution and sale for purposes of irrigation, and for domestic and other beneficial uses, conferring upon the appropriator the great powers mentioned, and compensating it for its outlay by the fixed annual rates.

> "The complainant was not obliged to avail itself of the offer of the State, but, choosing, as it did, to accept the benefits conferred by the constitution and laws of California, it accepted them charged with the corresponding burden. Appropriating, as it did, the water in question for distribution and sale, it thereupon became, according to the express declaration of the constitution, charged with a public use."

I am reading from page 44 of my brief.

If they could not do that; if they could not charge it as a rate, they cannot do it indirectly, as they are attempting to do in this case, by having it valued as a part of their plant. That is what the court and master held in this case.

That is really the only decision anywhere to be found that approaches or might be said to bear directly upon the question.

When that case came to this court, it is reported in the 174th U. S., page 739, Mr. Justice Harlan delivered the opinion in the case, and said:

> "One of the questions pressed upon our consideration is whether the ordinance of the city should have expressly allowed the appellant to charge for what is called a 'water right.' That right, as defined by appellant's counsel, is one 'to the continued and perpetual use of the water upon the land to which it has been once supplied upon payment of rates therefor established by the company.' In the opinion of the circuit court it is said that 'no authority can anywhere be found for any charge for the so-called water right.' This view is controverted by appellant, and cases are cited which, it is contended, show that the broad declaration of the circuit court cannot be sustained."

(Cases are then cited.)

> "We are of opinion that it is not necessary to the determination of the present case that this question should be decided. We are dealing here with an ordinance fixing rates of compensation to be collected within a given year for the use of water supplied to a city and its inhabitants or to any corporation, company or person doing business or using water within the limits of that city. In our judgment, the defendant correctly says in its answer that the laws of the State have not conferred upon it or its board of trustees power to prescribe by ordinance or otherwise that the purchase and payment for so-called 'water rights' should be a condition to the exercise of the right of consumers to use any water appropriated for irrigation or affected with a public use."

Counsel says that that case has been overruled by the Supreme Court of California and subsequently by the United States Circuit Court of Appeals in a number of cases. Counsel makes the same claim in his brief. We have in our brief answered that, may it please your Honors, by showing that the decision of Judge Ross was not involved at all in these

other cases referred to by counsel. The cases referred to by counsel, notably the case of the Fresno Canal Company against Park, 129 California, were not cases in which the question was presented as to whether or not a water right should be valued or charged for in that way. Those cases present simply the question of whether or not, in the absence of a rate fixed by the board of supervisors, the water company and the irrigator could make a contract about the rate to be paid. That was all that was involved in those cases. This question was not decided at all in any of them, and was not presented in any of them.

The Supreme Court of California, in a number of late cases, however, has practically adopted the law of Colorado, you might say, in regard to these water companies supplying the public. Under the constitution of Colorado all of the waters in the State are public waters, and there are no such things as riparian rights.

Mr. Justice VAN DEVANTER: Are the water rights public, too?

Mr. LANGHORNE: Apparently so.

Mr. Justice VAN DEVANTER: What decisions do you refer to in Colorado?

Mr. LANGHORNE: They are referred to in the court's decision and also in the brief, where they seem to take the position that a public water company is a public carrier of water.

Mr. Justice VAN DEVANTER: Is that all you mean in reference to that?

Mr. LANGHORNE: Yes; that is all I mean in regard to that.

Mr. Justice VAN DEVANTER: Well, a railroad company is a public carrier but it owns its railroad.

Mr. LANGHORNE: Well, but there it seems admitted that the water company has no proprietary interest in the water at all.

Mr. Justice VAN DEVANTER: No proprietary interest in the water?

Mr. LANGHORNE: In the water, yes, or in its use. It only has the right to appropriate it for the purpose of carrying it to other people—that is, to the public—to be used.

Mr. Justice VAN DEVANTER: Do they hold that it is not a proprietary interest? I do not mean in any specific water, but do they hold that it is not a private right?

Mr. LANGHORNE: Well, they practically hold that.

Mr. Justice VAN DEVANTER: Will you not indicate one of the decisions which says that? If it is just an inference that you are drawing you need not dwell upon it.

Mr. LANGHORNE: I will refer your Honor to it when I come to the decision of the circuit court.

In a late case decided by the Supreme Court of California, the case of *Leavitt vs. Lassen Irrigation Company,* in 157th California, the plaintiff had been the owner of an irrigation system under his private right first, apparently. Then he dedicated the waters to the public and commenced selling them and distributing them to the public. Then, after he sold the water company, he attempted to maintain that he had acquired a private right to a portion of those waters. The Supreme Court of California said:

> "Treating Leavitt's appropriation as being wholly and entirely for public use, he, the owner of the system, was but an instrumentality for the distribution of the waters which he gathered to such members of the public as might apply for them and pay to him the legal charge for the service that he rendered. As the agent of such a public use, he had no power whatsoever to reserve for himself for his private purposes any part of this water. If he could reserve a part he could reserve all, and thus, by his *ipse dixit*, convert a public use into private ownership, or, if he could reserve a part for himself, he could with equal authority give away parts of the supply to others, and by this method destroy what the constitution itself has declared shall forever remain a public use."

Again, in the very case referred to by counsel, is the decision which he has set forth in his brief, the *Tyndale Palmer* case, it is said:

> "It follows that they remain private property when they pass the purchasers, and that when they pass from the riparian owner to others by prescription, grant or consent, they do not by that transfer become impressed with any public use and it still remains true that there must be a dedication to public use to divest the private right."

There is a recognition in the very last decision by the Supreme Court of California that after a dedication of these waters to public use all private rights in them cease.

Now, if your Honors please, there is absolutely no difference between the law of California and the law of Colorado in regard to this matter—after the waters have been dedicated to a public use in California—absolutely none. Here is a case which counsel has printed in his last brief filed, which makes that distinction: That it remains private property up to the time of dedication, and after it has been dedicated it then becomes public property and there can be no private right in it.

Mr. Justice PITNEY: As I understand the dedication that this company has done is to freely distribute this water for irrigation purposes at a price of so much per acre.

Mr. LANGHORNE: Yes.

Mr. Justice PITNEY: And that is done subject to the regulation of the supervisors?

Mr. LANGHORNE: Yes.

Mr. Justice PITNEY: Is it dedicated in any other sense except that it is dedicated subject to receiving compensation for its enjoyment?

Mr. LANGHORNE: The State allowed it to charge rates in consideration of the dedication.

Mr. Justice PITNEY: The question is whether, in charging the rate, you are not counting as a part of the capital the right to get the water out of the river and distribute it in this fashion.

Mr. LANGHORNE: Yes.

Mr. Justice PITNEY: And if so, how much is it worth?

Mr. LANGHORNE: That point is fully covered by the decision of the judge of the circuit court. Judge Morrow places it upon this ground:

> "In these cases the theory that the irrigation company is an intermediate agency in the execution of a public trust is necessarily based upon the doctrine that the right to appropriated water is attached to the land. The company cannot at the same time be principal and agent. It cannot own the water or the right to appropriate and sell it, and at the same time be the agent of the public in appropriating it for a public use. The logical relationship of such a company to its appropriated water is that of agent of the owner of the land in diverting and bringing the water to the land for which it has been appropriated. But it is immaterial whether the company is deemed to be the agent of the public in diverting and carrying the water owned by the public to the consumer who owns the right to its beneficial use, or the agent of the consumer in diverting and carrying the water to his principal for a beneficial use. In either case, while the carrier is entitled to be paid for his services as a carrier a reasonable compensation under such regulations as the law may prescribe, he is not the owner of the water carried or the water right created by its diversion, and he cannot compel the consumer to purchase it, and to pay for its use, either in the way of an annual or other rate upon its supposed value as a property right. One of the methods suggested by the complainant for estimating the value of its alleged water right was upon the basis that the value of the right to have water to irrigate land may be measured by the excess of the value of the land with such a right over that which it possessed without such a right, less the expense incurred by the land-owner and the canal company in introducing the irrigating system. By this method the following estimate was obtained: The value of the land without water was $855,312. To bring the land under irrigation, the land-owners had constructed lateral ditches costing $162,000, making a total of $1,017,312 as the

investment of the land-owners. The complainant's irrigation works cost $1,042,940.05, making a combined expenditure on the part of the land-owners and complainant of $2,060,252.05. The value of the land with water was estimated at $4,122,210. Deducting from this amount the combined expenditure of $2,060,252.05, and we have as the value of the water upon the land the sum of $2,061,957.95. This sum divided in half would be $1,030,978.97, which would represent the increased value of the land upon the land-owners' investment, and also the increased value upon the canal-owner's investment—that is to say, the sum of $1,030,978.97 for each—and accordingly this sum is claimed by the complainant as the value of its water right. This method of working out a water right for the complainant and fixing its value is plausible, but not sound. It assumes that the irrigation company has obtained a partnership interest in the land irrigated, when none has been secured by contract or provided by law. As well might a railroad company in estimating the value of its property for rate purposes add to the value of its railroad property the valuation for a share or interest in the increased value of the land through which the railroad has been built, and to the owners of which it distributes merchandise as a carrier. This method of valuation of a water right discloses, however, its real basis and character; to be of substance and value it must be attached to the land"—

It has absolutely no value at all unless it is applied to the land, and therefore the judge says:

"This method of valuation of a water right discloses, however, its real basis and character; to be of substance and value it must be attached to the land and be a part and parcel of that interest. What Mr. Justice Henshaw said in the Leavitt case with respect to a private right of service from the carrier is equally applicable to such a water right: 'If by any method, however devious, there can be carved out of this public trust such a private right, it must obviously result in the destruction of the public use itself.'

This theory of the relation of the carrier to the water right as an intermediate agent is in accord with the law of beneficial use prevailing in all the western States where the right of appropriation is derived from act Cong. July 26, 1866, c. 264, 14 Stat., 251, and is there limited to some useful or beneficial purpose. As said by Mr. Justice Field in Atchison *vs.* Peterson, 20 Wall., 514 (22 L. Ed., 414): 'The right to water by appropriation is limited in every case in quantity and quality by the uses for which the appropriation is made.' This was said with respect to the use of water for mining purposes, but in the subsequent case of Basey *vs.* Gallagher, 20 Wall., 682; 22 L. Ed., 452, the court held that the views and rulings made in the case of Atchison *vs.* Peterson 'are equally applicable to the use of water on the public lands for the purposes of irrigation.' To the same effect is the desert land act (act, March 3, 1877, c. 107, 19 Stat., 377) (U. S. Comp. St., 1901, p. 1548), where it is provided that the right to the use of water on desert land 'shall not exceed the amount of water actually appropriated and necessarily used for the purpose of irrigation and reclamation.' The Civil Code of California provides in section 1411, with respect to water rights acquired by appropriation. The appropriation must be for some useful or beneficial purpose, and when the appropriator or his successor in interest ceases to use it for such a purpose, the right ceases.' Section 8, act Cong. June 17, 1902, c. 1093, 32 Stat., 390 (U. S. Comp. St. Supp., 1909, p. 600), commonly called the 'Irrigation Act,' provides that: 'The right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis and measure and limit of the right.' The same provision has been incorporated into the laws of most of the western States, not, however, as new legislation, but as the established definition of a water right under the acts of Congress and the constitutional provisions of the States declaring that the use of appropriated water is a public use. The right of diversion is accordingly limited to the beneficial use made by the consumer. Anderson *vs.* Bassman (C. C.), 140

Fed., 14; Wiel on Water Rights in the Western States (3d ed.), sec. 478. The complainant in this case claims to have acquired by prescription against all riparian owners and by appropriation against the world the right to divert from the San Joaquin River the quantity of water which the evidence shows it has diverted into and through its canals for more than five years, to wit, 1,350 cubic feet of water per second. The claim, as stated, is manifestly not sufficient to state a right of diversion. It must appear, further, that the complainant is either the owner of land for which the water is being appropriated for a beneficial use, or that the water is being diverted for the purpose of being carried by the complainant to consumers who own land for which the water is being appropriated for a beneficial use, and that the water is being so used. The complainant in this case is not the owner of any land for which the water is being appropriated. The complainant's right to divert the water of the river is therefore based upon and is measured and limited by the beneficial use of certain consumers for which the water is being appropriated. But, if the amount required by these consumers for a beneficial use is not 1,350 cubic feet of water per second, then complainant has no right to divert that quantity of water; or if, for example, these consumers require only 100 cubic feet per second for beneficial use, then that would be the basis and measure and limit of complainant's right to divert water from the river, and not the capacity of complainant's head-works, canals, and ditches used in making such diversion. The water right must, therefore, be the right of the consumer and attached to his land, and not the right of the complainant attached to its canal system. It follows that, under the law of this State, it cannot be valued as a property-right upon which the complainant is entitled to an income from the water rate to be paid by the consumer."

That is the basis of the judge's opinion in this case upon the question as most strongly presented by the record.

I submit the case.

REPLY ARGUMENT OF MR. EDWARD F. TREADWELL ON BEHALF OF APPELLANT.

Mr. TREADWELL: May it please your honors, there are only one or two matters that I care to reply to, because we feel that the matters of most importance have been very thoroughly argued, both orally and in the briefs.

I would like to say just one word to the court in regard to the suggestion that is made by counsel that for the reason, as he claims, that we did not claim the water rights, they should be confiscated and we should have no relief from this court or any other court in regard to them.

The facts in regard to that are these: Counsel has stated, and this court knows, that there has been previous litigation between these very same parties in regard to this general subject, not of water rights, but about rates, and the court has before it our bill of complaint filed in the original suit, between these same parties, in which the ownership of these water rights is set up and claimed by this complainant, and it is alleged in that complaint that no return was allowed upon them.

It has been distinctly held by the Supreme Court of California that the board of supervisors need give no hearing whatever in fixing these rates; that it need take no evidence whatever if it does not desire to in fixing the rates, but it acts absolutely and entirely as a legislative body, hearing whom it may see fit to hear, and hearing what it may see fit to listen to. All that this record shows is that when we filed our complaint in this case we specifically set up the ownership of these water rights and specifically alleged that no return whatever had been allowed upon them. The defendants come in and say that the board of supervisors has been so terribly misled, according to counsel, that we should be denied relief. They deny that we had these water rights and deny that they were of any value whatever. We went to trial on that subject and we tried it for many days, as this

record shows, on the question of these water rights, how they were acquired, what their value was, what the cost was, and matters of that kind. That matter was in issue, and they contended that we were not entitled to any return at all. Therefore this court must assume, if it assumes what is reasonable, that if these water rights had been shown in the proceeding before the Board of Supervisors, that the Board of Supervisors would naturally have taken the same position with regard to them that they took in their verified answer here and which they take on this appeal, from one end to the other, and that is that we would not be entitled to them, if we had set them up, or if they had appeared.

All that does appear in this case is that counsel introduced a typewritten stenographic report of certain proceedings of evidence taken before the supervisors. In other words the evidence that was taken before the board of supervisors was produced on this hearing. There is nothing shown here as to what the company claimed before the board of supervisors; there is nothing here to show what argument was made upon the facts there shown. There is nothing about the claims that were made by the company, but simply the testimony that the board of supervisors saw fit to take. Among other things, that evidence showed that the company did own canals; that it was diverting water; it showed the amount of water that it sold; the amount of money it cost to sell it, and the amount received for it. In fact, every factor, almost, was produced which would show the existence of a water right. In other words, without the right to divert the water, it would be difficult to understand how it could have water to sell—and that was the very foundation of the entire proceeding. General testimony was given as to the cost of this entire plant. It is admitted by counsel that the same witnesses came before the board of supervisors that came before the court and testified to the cost of this plant. It is admitted that the cost of the plant included an alleged cost of water right; but because, as he says, the stenographic report before the board of

supervisors does not show items—there being no cross-examination of the witnesses and the witnesses being allowed to simply give their conclusions—of the total amount of the cost of all the property, including both the water rights and the tangible property, he therefore draws the conclusion——

The CHIEF JUSTICE: What were the items included in that cost——

Mr. TREADWELL: Do you mean before the board of supervisors, your honor?

The CHIEF JUSTICE: You say, "the cost of the water right."

Mr. TREADWELL: The only cost that was included in that particular matter was the sum of $112,000 alleged to have been paid to a man by the name of Bensley in 1871.

The CHIEF JUSTICE: Paid him for what?

Mr. TREADWELL: For water rights, etc.

The CHIEF JUSTICE: He could only, under the California law, as I understand it, have taken the water out for a beneficial use. If he had the right to take that water out, or had acquired the right to take the water for a beneficial use and you paid him to give up that right which he had and turn it over to you, of course you might call that the cost of the water; but it was not. It was the cost of buying the privilege to get that water which somebody else had appropriated for a beneficial use. Is that what you mean by paying $112,000 for the water right?

Mr. TREADWELL: I want to say candidly to your honor that I am not arguing at the present time to show that we paid anything for the water right.

The CHIEF JUSTICE: Then I misunderstood you.

Mr. TREADWELL: I simply want to show that in the proceedings before the board of supervisors that we put in just as much evidence in regard to the structures as we did in regard to the water right and just as much evidence in regard to the water right as we did in regard to the structures.

Mr. Justice LAMAR: Do you make a distinction between the water that you sell by the gallon or by the acre as a

commodity, and the right to take that water out of the river?

Mr. TREADWELL: The right that we claim, your honor, as a water right, is the right to divert water from the river. That is the right we claim as being a thing of value. As to how we acquired that, your honor will note by Judge Morrow's opinion, that he thought we simply went out and appropriated it. But the vice of that is that you cannot acquire anything in the way of water by mere appropriation in the State of California. You have got to either acquire it by purchase from the riparian owner or by extinguishing his rights by prescription. When you do once acquire it, whether it is by prescription or by contract, then it is a right of property, and that is the water right that we are talking about.

Mr. Justice DAY: What was the right of the riparian owner?

Mr. TREADWELL: The right of the riparian owner, if the court please, in this particular stream has been adjudged to be the right to have all the water of that river flow unrestrained in any way, shape or form, past his property, and it has been held by the Supreme Court of the State of California, within the last three months, that no one can appropriate a drop of that water in the San Joaquin River as against the protest of a riparian owner. It has been held within the last three months that a canal company, which took out its canal a few miles above this company and attempted to appropriate and divert the water, as against some riparian owners, could be enjoined from taking any water whatever.

The CHIEF JUSTICE: There is some case in this court, the title of which I do not recollect—it has been here since I have been here—where there is this situation. If I am not mistaken, the beneficial-ownership principle applied there. They cut their canals and took out water. There were four or five canals. Canal A was established prior to the other canals. Canal A was cut through to take so many inches of water,

and Canal B and Canal C were also cut through. After that had gone along for some time and they wanted to take out water, some controversy arose, and my recollection is that the water gauger, appointed under the State law, went along that river and he said to Canal A, "Look here; you have a canal here big enough to take out a thousand inches, and while you are away ahead of these people, you are not devoting this water to a beneficial use. You are only devoting 60 inches to a beneficial use"—or 40 inches, whichever it was—"and I am going to reduce the water that you take out to that which you can use for a beneficial use." If it was recognized that there wasn't any ownership in the water, how could they take the ownership away? They took it away from him on the ground that he only had what they would call a servitude.

Mr. TREADWELL: I understand your Honor's suggestion very clearly.

The CHIEF JUSTICE: I do not know what case that is.

Mr. TREADWELL: I do not remember the case, but it is unnecessary, because what your Honor states is an elementary proposition.

Mr. Justice VAN DEVANTER: That is a part of every water right. You only have the right to take the water out for a beneficial use and only so long as you use it that way.

Mr. TREADWELL: Exactly. We are talking about the right by appropriation, the right between appropriators In the case your Honor mentions they were claiming by appropriation, and one of the conditions of appropriation under any law is that it must be for a beneficial use. It cannot exceed a reasonable amount necessary for that beneficial use. But it does not make any difference whether a man used it for himself or whether he had somebody else to use it. It is a beneficial use in either case, and he must within a reasonable time see that it is applied to that beneficial use.

The CHIEF JUSTICE: These were distributing canals.

Mr. TREADWELL: I understand, your Honor. But in the case of a public-service company it is held even when the

claim is by appropriation entirely and nothing else that they have a reasonable time, which may be as much as five years, in which to finally apply the water to a beneficial use, and to find out the measure of their right, but the title is always in one place and it is subject to a condition either precedent or subsequent. If they do not apply it to a beneficial use they will never get title completed, or they will lose title if it is completed. When you do put it to a beneficial use the title is then completed, and it relates back to the original appropriation. But whether that has any application here or not is not very important, because I do not want you to overlook the fact that this was not a case where you could simply go to the stream, where you had been invited, so to speak, by the State, to go and help yourself, either for your own use or the use of the public, but this is in a State where the State has said through the highest court that you cannot go to the stream and you cannot take a drop of water until you acquire it by some other method than the right of mere appropriation.

Mr. Justice LAMAR: As between two appropriators, when one person unlawfully takes the water that belongs to another, what is the property damage? How is that valued when one takes water that belongs to another?

Mr. TREADWELL: That is, when one appropriator takes water belonging to another appropriator?

Mr. Justice LAMAR: Yes.

Mr. TREADWELL: Of course if he simply took it temporarily and it was simply a suit for the damage that had been caused, why, of course it would only be the actual damage through the loss of a crop, or something of that kind. But if it was permanently taken—and that is probably what your Honor has more reference to—for instance, by condemnation, in those cases they do hold that the value is to be fixed by the difference in the value of the land with the water and the value of the land without it. It is true that that is done. But I want your Honors, because this point Judge

Lamar has suggested is important, to be careful in considering this case to entirely separate the question as to how you are to prove the value of this water right from the question of its existence and the right to a return upon it. I want to say that how a particular right would be proved, that is, how the particular value of it will be proved in any given case, especially where the water is owned by a company which is limited to the right to sell it and collect the rate, is often a difficult question. But happily that question is eliminated in this case because the court has found the value and we are not concerned with the method it took to arrive at the finding of that value. So I would say that there may be an entirely different property right, which has a separate value, and that is the right of a consumer to receive the water on his own land. That may be of value. I am not saying it is not, because it is not in this case. Possibly our water right is not as valuable as if we absolutely owned this property and could do anything with it that we saw fit. That does not militate against the proposition that it is property and property the value of which the court has found.

There is one other contention that counsel makes, and it is substantially this: That the record here shows that under the law we could not take this water without first settling with the riparian owners. The record shows that we in fact did settle with the riparian owners by saying: "Here, instead of paying you a flat sum for the right to take this water, we will take it and give you certain concessions hereafter in regard to your rates or in regard to other things." Counsel says that because we have done that——

Mr. LANGHORNE: I did not say that.

Mr. TREADWELL: I say in effect counsel says we have done that, because hereafter when we furnish the water we will have to make these concessions to these men. He says that because we cannot actually get the money into our own pockets and then pay it back to them that we should be denied any relief at all in the courts. In other words, he

says that because we cannot get 25 per cent of this return, because we have already contracted that away, that the court will also take away the 75 per cent that we would receive from other people.

I do not suppose this court would hesitate for a moment to say that a canal company could go out and say to the riparian owner, "We will give you so much money every month in payment for the right that we get," and when it comes around we collect the full rate and then pay them that amount. The court, of course, in passing on those rates, would consider that we got the whole rate, and the matter would be stopped right there. That is what the court did in this case. To say that the court would not give us any relief against a confiscatory ordinance, which is admitted to be confiscatory, simply because we have got to live up to our private contracts is beyond the decision of any court and is not based in either reason or law.

As to the matter of payment for these water rights, I must say that even after listening to counsel's argument it is difficult to understand what counsel's position on that is. He admits in one breath, as I understand his argument, that the fact that we did not pay for these water rights is an entirely immaterial factor. Of course, it must be, because, if we acquired them by prescription, that is just as good a way of getting title as any other, and whether we did pay for them or not seems to be entirely immaterial. But the *master* before whom this case was tried held if we had paid for the water rights we would have been entitled to recover a return on them. The *court,* however, entirely disregarded the master on that, and, of course, it had to, because this court had held time and again that what you pay for a thing is an entirely immaterial factor—in fact, it so held in our own appeal in this previous case that it was not a controlling factor—so the court, in rendering the final judgment, said that it was entirely immaterial whether we had paid for them or had not, and that is the attitude counsel necessarily takes in this case.

Counsel states that California, in the last few years, has adopted the Colorado theory of water rights. That seems to me to be a pretty extraordinary statement to make to this court, in view of the fact that in the *Palmer case* the court specifically called attention to the difference between the law of Colorado and the law of California on this subject.

Counsel has argued that the Supreme Court of California has abandoned all of its decisions on this subject and gone back and adopted the Colorado cases. Notwithstanding that, I have cited a case here, decided within three weeks, I think, where the court specifically said that the Colorado cases did not apply to California. All he refers to in support of that is what is known as the *Leavitt case*.[16] All that was held in the Leavitt case was that a man who had dedicated the water to a public use could not go and carve out of it a private right and say he owned that absolutely as against the public to which he had dedicated it. That is a proposition, your Honors, that no one disputes in any way, shape, or manner.

Then he goes on and says that the Palmer case shows that there still must be "a dedication" in order to divest the private right. There are two kinds of dedication. One dedication is where you absolutely give a right to the public and in giving it you do not want any compensation and do not ask for any. That is an absolute dedication in the most extreme sense. The other method of dedication is when you impress a thing with a public use on the condition that you are to get a return on it in the way of a rate. The first method is a mere benevolence. The one we are dealing with here is not an absolute dedication in the nature of an absolute gift, but it is a dedication coupled with a condition that you will get a due return, because that is what we started in business for in the first place.

There is one final thing in this case to which I desire to briefly refer: Counsel refers to the fact, as did Judge Morrow, that the Civil Code of California provides for the appropriation of water. Now I have shown to your Honors not only

[16] Leavitt vs. Lassen Irr. Co., 157 Cal., 82.

that the sections of the Civil Code which counsel referred to provided for appropriation of water, but a couple of years ago the legislature went to work and amended these sections of the Code by putting in the declaration that the waters of the State of California were public waters of the State. That was in 1911.

On the petition for rehearing in the *Palmer case*, which I have read to your Honors, those Code provisins were called to the attention of the Supreme Court of California, and the Supreme Court of California said that those provisions of the Code had no effect whatever; that the added provision to the Code by amendment that these were public waters of the State was a declaration by the State which it had absolutely no power to make, so far as concerned rights already vested in people who had acquired rights against the riparian owners by prescription; that those were private rights and that they were in private ownership; that the declaration of the State made in the year 1911 that these were public rights and public waters came too late to have any effect whatever. That particular case in which that decision was made was a case of a public-service corporation where the water had been dedicated to, as counsel says, or impressed with, as I say, a public use.

I thank your Honors.

Office Supreme Court, U. S.
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CLERK

No. 303

In the Supreme Court

OF THE

United States

OCTOBER TERM, 1913.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY INCORPORATED (a corporation),

Appellant,

vs.

COUNTY OF STANISLAUS of the State of California et al.,

Appellees.

APPELLANT'S REPLY BRIEF.

GARRET W. McENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Appellant.

Filed this.....day of March, 1914.

JAMES D. MAHER, Clerk.

By.....Deputy Clerk.

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In the Supreme Court
OF THE
United States

October Term, 1913.

The San Joaquin and Kings River Canal and Irrigation Company Incorporated (a corporation), *Appellant,* vs. County of Stanislaus of the State of California et al., *Appellees.*	No. 303

APPELLANT'S REPLY BRIEF.

Preliminary Statement.

In replying to the brief for appellees herein we shall make no attempt to reargue the principal matters presented in our opening brief, nor will it be necessary to in any way analyze the cases relied upon by appellees, as most, if not all, of them were very fully considered by us in our opening brief. There are, however, some matters of general importance contained in

appellees' brief to which specific reply will be made. Before doing so in detail, we would respectfully submit that in some regards appellees' brief is somewhat disappointing and that it tends to cloud the issues on this appeal by going into matters decided in favor of appellees and which, for the purpose of this appeal, appellant has not questioned in this court, but, for the purpose of appeal, has considered as being properly disposed of by the trial court. For instance, we have conceded that if, under any contract Miller & Lux receives water from the canal company at a price less than the established rate, the canal company must be considered to have received the full rate in determining the validity of the ordinance. In the same way, we have conceded that whether Miller & Lux properly received water for its wild, uncultivated lands under the contract of 1871 and 1872, or whether it improperly received it, the action of the court in charging the canal company with the receipt of the value thereof was proper. We have also, in our opening brief, conceded that, so far as this appeal is concerned, we would not question the correctness of the decision of the lower court in charging the canal company with the receipt of some thirteen thousand dollars with which the lower court charged it, although we have always felt that the canal company should not have been charged with the receipt of that money. In view of these concessions, clearly made in our opening brief, it is difficult for us to see the propriety of reiterating and rearguing the correctness of the

decision in these regards. It is admitted by appellees that even after charging the canal company with the receipt of all of these moneys, and even upon the reduced valuation of the property as fixed by the court, and upon the reduced cost of maintenance fixed by the court, these rates only provide an annual net return of 6.66 per cent and that if the appellant were allowed a return upon the value of the water right as fixed by the trial court the rates would only allow an annual net return of 3.65 per cent. Under these circumstances it is clear that, conceding, as we have in our opening brief, all of the contentions of counsel on the points mentioned, if we are right in any of the material points relied upon in our brief, the rates are admittedly confiscatory.

It certainly would be a peculiar situation if we were deprived of a decision on that question for the reason that in the lower court we contended with great earnestness that we were being improperly charged with additional receipts and being improperly deprived of credit for additional expenditures. We trust, however, that we have stated our position, both here and in our opening brief, with sufficient clearness to show to the court that these matters are entirely immaterial to this appeal.

With this general statement we will now proceed to briefly reply to matters contained in appellees' brief which are of importance on the points actually involved on this appeal.

I.

APPELLEES' CONTENTION THAT THE COMPANY IS ONLY ENTITLED TO A RETURN ON ITS INVESTMENT AND NOT UPON THE PRESENT VALUE OF ITS PROPERTY IS CONTRARY TO THEIR POSITION IN THE FORMER CASE BETWEEN THE SAME PARTIES, AND IS CONTRARY TO THE UNIFORM DECISIONS OF THIS COURT SINCE THAT TIME.

Prior to the former case between these parties (*San Joaquin & Kings River Canal & Irrigation Company v. Stanislaus County*, 192 U. S. 201; 24 Sup. Ct., 241; 48 L. ed. 406) there had been no considerable discussion as to the exact basis upon which a company was entitled to a return in such cases. Prior to that time, however, the Supreme Court of California had given careful consideration to the matter in the case of *San Diego Water Co. v. San Diego*, 118 Cal. 556. In that case the court was divided, but the principal opinion was written by Mr. Justice Van Fleet (now United States District Judge, Northern District of California), and was concurred in by Mr. Justice Henshaw and Mr. Justice McFarland, and in that opinion the view was taken, as stated in the syllabus that:

> "The state has in effect appropriated the water and plant of the water company to public use and is bound to provide a just compensation for that use, to be ascertained, not upon the basis of the market value of the property, nor upon what it would cost to replace it, but upon the basis of the revenue that the *money* reasonably and properly expended in the construction of the works, actually in use, is capable of producing."

The theory underlying this contention was thus stated in the opinion:

> "They have expended their *money* for the benefit of others and subjected it to the control of others. That *money* has, in effect, been taken by the public; and the public, while refusing to return that *money* can not be heard to say that it no longer has not use for all of it."

The majority of the court, however, consisting of Garoutte, J., Temple, J., Harrison, J., and Beatty, C. J., took the contrary position stated in the syllabus as follows:

> "In the fixing of water rates the valuation of the plant is the basic element upon which the investigation rests; and the original cost of construction is simply an element to be considered in fixing the present valuation and the municipality must fix a fair and just rate for the water based upon the actual value of the plant."

This decision was rendered in 1897 and in the former case between these parties the canal company contended for the position taken by Mr. Justice Van Fleet in that case, namely: that it was entitled to a return upon its investment and not merely a return upon the present value of its property, and both in the lower court and in this court it strongly urged that position, relying particularly on the decision of Mr. Justice Van Fleet above referred to. Its position in that regard is set forth fully in its brief in that case in this court which is thus epitomized by the reporter:

> "Rates should be fixed as to allow a reasonable income on the money actually expended in construction, unless the amount of money was extravagantly or unnecessarily or fraudulently expended" (192 U. S., p. 205).

On the other hand, the Board of Supervisors in that case took the contrary position, holding that the present value of the property was the proper basis and that position is thus summarized by the ..rt reporter of this court:

> "While the cost of the works is an element to be considered, yet it is not the basic or chief element. The value of the property used and useful and the service rendered constitute the basis of valuation in arriving at the rates" (192 U. S., p. 205).

The reason for the position taken by the company in that regard is not difficult of ascertainment, for the canals and works were constructed at a time and under circumstances when they necessarily cost much more to construct than they would at the present time, and the actual cost of construction was $1,042,940.05 (Complainant's Exhibit No. 15, pp. 1107-1109), and this did not include $111,916.49, which the company lost in an experimental farm in order to convince the public that it was feasible to irrigate the land under the canal (p. 404), nor did it include the expense of getting water from Tulare Lake amounting to $9,026.23 (p. 405), which had to be abandoned for the reason that the lake receded, nor did it include the loss suffered by the company during the early years of its existence before it was put on a dividend paying basis amounting to $257,369.03 (pp. 1104-1109).

We would be lacking in candor if we did not admit that we had always felt that there was considerable merit in the view of this matter as stated by Mr. Justice Van Fleet, and as contended for by us in the former case between these parties, but we must likewise admit that when we came to trial of this case it had been firmly established by the decisions of this court that such was not the rule, but that on the contrary present value was the test, and that present value meant the present reproductive cost less depreciation. It would seem to be hardly necessary to review the authorities in support of this statement. Suffice it to say that this view was the view clearly announced by the trial court in the Willcox case, and this court gave its approval of that view in the following language:

> "And we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase" (*Willcox v. Consolidated Gas Co.*, 212 U. S. 1951; 53 L. ed. 382, 399).

The same rule necessarily results from the decisions in the cases of

Knoxville v. Knoxville Water Co., 212 U. S., p. 1; 53 L. ed. 371;

Smyth v. Ames, 169 U. S. 544, 42 L. ed. 848; 18 Sup. Ct. 418;

Minnesota rate case, 230 U. S. 352; 57 L. ed. 1511.

In fact it has been directly held that the company is entitled to a return on its property even if the property was *donated* to the company.

> *City of Ashland v. Ashland Water Co.*, 4 Wis. R. C. Rep. 273, 306;
>
> *Tighe v. Clinton Telephone Co.*, 3 Wis. R. C. Rep. 117, 126.

We therefore properly bowed to the rule laid down by this court and in this case proceeded on the theory clearly upheld by this court that the proper basis is the present value of the property of the company, irrespective of what it may have cost to acquire the same. This rule obviously must work both ways: If the property depreciates in value, the company must stand the loss; if it appreciates in value, it is entitled to the gain; if it was improvident in acquiring the property and paid too much therefor, it must suffer the loss; if it was enterprising and acquired the property cheaply, or for nothing, it is entitled to the consequent gain. Counsel for appellees see the necessary result of this, and in order to defeat the right of the company to any return on its valuable water rights reverse their position and contend that the entire basis of rate fixing is not the present value of the property, but the original cost or investment of the company. We quote the language of their brief on this subject as follows:

> "It thus appears that complainant's alleged water rights have cost it nothing, and, so far as the record shows, all that complainant and its predecessors ever did was to divert the water from a public stream without paying any one con-

sideration for the right of such diversion. Consequently, its mere right to divert the water having cost complainant nothing, it does not represent an investment of money or other thing by complainant. Such being the case, complainant is not, we claim, entitled, in a proceeding to determine the rate it shall charge the public for the use of the water, to have the value of such alleged right of diversion included in the value of its diverting and distributing plant" (brief for appellees, pp. 26-27).

* * * * * * *

"We fail to see how complainant can be injured by omitting from the valuation upon which its rates are to be estimated a water right that has cost it nothing and represents no investment by it, for the underlying reason supporting the constitutional guarantee that the rates shall be reasonable is that the rates shall give a reasonable *return upon the investment* and not a return upon something that may have cost the complainant nothing and that represents no investment" (brief for appellees, pp. 29-30).

It does appear to us that a decent regard for consistency, to say nothing of the decisions of this court, would seem to show the impropriety of the appellees making such a contention in this case. We established the present value of the water right owned by this company. The court found its present value, and assuming that there is nothing in the record showing its cost (and that is the most that appellees can claim for the record), appellees would have this court hold that the property is subject to confiscation and no return should be allowed upon it because there is no affirmative evidence of what it cost.

II.

THE CONTENTION OF APPELLEES THAT THE WATERS ACQUIRED BY THE CANAL COMPANY BY APPROPRIATION, PRESCRIPTION OR CONTRACT WERE "PUBLIC WATERS" IS ENTIRELY UNFOUNDED UNDER THE LAWS OF THE STATE OF CALIFORNIA.

Counsel's principal argument against the allowance of any return upon the water rights of the company is that such waters were "the public waters of the State of California" (appellees' brief, p. 28). To use the language of their brief:

> "We have said that the waters diverted from the river by complainant and its predecessors were public waters of the State of California, and this is undoubtedly so. It is provided by section 1410 of the Civil Code of California that 'the right to the use of running water flowing in a river or stream or down a canyon or ravine may be acquired by appropriation' * * * The result is that the waters that a person takes from any stream in California and uses for a beneficial use for five years continuously and adversely to others are public waters of the State, which he is entitled to so appropriate and devote to a beneficial use."

We pointed out in our opening brief the fallacy of this argument in a state like California where, unlike the State of Colorado, it is held that the ownership of the water is vested in the owners of the land through which the stream flows. It would appear, however, that appellees are not the only persons who persist in this error, and for that reason, since the filing of our opening brief, the Supreme Court of California

had occasion to point out this error in affirming the decision of the Railroad Commission of the State of California, referred to in our opening brief, in the case of

> *Tyndale Palmer v. Railroad Comm. of the State of California*, decided January 20, 1914, ... Cal. .....

That case contains one of the clearest and at the same time most concise statements of the water law of the State of California, and particularly explains the meaning and effect of the statutes of that state in regard to appropriation of water, and we would commend the case to the careful consideration of the court and will content ourselves by now quoting the following paragraphs from the opinion in that case:

> "The theory that the water of a non-navigable stream in this state is in some sense 'public water' has been advanced before. It has been claimed that a diversion of water under the provisions of the Civil Code (secs. 1410 to 1422) constitutes a grant of the water by the state to the appropriator. The idea may have arisen from the statement sometimes made in the decisions that the riparian owner has no right in the *corpus* of the water (*Eddy v. Simpson*, 3 Cal. 252), and that running water cannot be made the subject of private ownership, that the right to use the water of a stream 'carries no specific property in the water itself'. (*Kidd v. Laird*, 15 Cal. 179.) This is far from saying that the property in the water is vested in the public, either for general use, or as property of the state. The doctrine that it is public water, or that it belongs to the state because it is not capable of private ownership, has no support in the statutes of the state or in any decision of this court."

* * * * * * *

"The proposition that the waters of a non-navigable stream are in their nature private property and not property primarily devoted to public use is not only established by authority; it is demonstrable from well-established principles of the law of real property. The right to the waters of a stream is real property, a part of the realty of the riparian lands originally, and a part of the realty as an appurtenance to any other lands to which it may be rightfully taken when the riparian rights have been divested in favor of the user on non-riparian land. This was decided as early as *Hill v. Newman* (5 Cal. 446), where the court said: 'The right to water must be treated in this state as it has always been treated, as a right running with the land, and as a corporeal privilege bestowed upon the occupier or appropriator of the soil; and as such, has none of the characteristics of mere personalty.' (See, also, *Lux v. Haggin*, 69 Cal. 392; *Santa Paula v. Peralta*, 113 Cal. 43; *Stanislaus W. Co. v. Bachman*, 152 Cal. 725; *Shurtleff v. Kehrer*, 163 Cal. 26; *Merritt v. Los Angeles*, 162 Cal. 50; *Copeland v. Fairview etc. Co.*, 165 Cal. —, 131 Pac. 121.) Until some change is made in natural conditions, there is no existent right to the water of a stream, except that vested in the riparian owners. They alone can lawfully have access to the stream, and therefore they only, in a state of nature, may lawfully use it or divert it from the stream. Hence, the right to the water of flowing streams in this state, prior to any sale or disposition of lands by the state or by the United States, was vested in the state or in the United States, not in their respective governmental capacities as sovereign and for the common use of the people, but as riparian owners in their respective capacities as landed proprietors. These rights were and still are strictly proprietary and in their nature private. When land was disposed of by either, the riparian water right pertaining thereto passed to the purchaser as a part of that realty. It necessarily remained a private right, since the sale did not have the effect of dedicating it to public use. All these

> rights belong primarily to the riparian owners, consisting of the United States, the state, and purchasers from one or the other of them. They cannot be divested from these riparian owners, and have not been divested from them, except by their consent, expressed, as by statute or by actual grant or contract, or implied, as by prescription; or by enforced taking for public use, as by condemnation. It follows that they remain private property when they pass to purchasers, and that when they pass from the riparian owner to others by prescription, grant or consent, they do not by that transfer become impressed with any public use and it still remains true that there must be a dedication to public use to divest the private right. They are no more public than is the land to which they belonged and of which they formed a part."

(In view of the fact that this opinion has not yet been officially reported, we attach the within opinion as an appendix to this brief.)

After this decision was rendered a petition for rehearing was filed in which the attention of the court was for the first time called to an amendment to section 1410 of the Civil Code, added on April 8, 1911, and providing:

> "All water or the use of water within the State of California is the property of the people of the State of California;"

and it was claimed that this declaration showed that the title to the water was in the people of the state, notwithstanding the contrary declaration of the court. In disposing of this contention, the court said:

> "In a petition for rehearing the plaintiffs quote the opening clause of the amendment of April 8, 1911, to section 1410 of the Civil Code. The sec-

tion formerly read as follows: 'The right to the use of running water flowing in a river or stream or down a canon or ravine may be acquired by appropriation.' By the amendment this was prefaced by the following declaration: 'All water or the use of water within the state of California is the property of the people of the state of California.' This, it is claimed, is contrary to the doctrine declared and followed in the opinion of this court herein. This section was not cited in the briefs upon which the case was submitted. We refer to it now solely in order to show that it has no application to the case. All the water rights which were in dispute in the case arose and were acquired by and under appropriations made long before the passage of the amendment aforesaid. It ought not to be necessary to remind any one that a law of this character is not retroactive, or that it cannot operate to divest rights already vested at the time it was enacted. The amendment may possibly be effective as a dedication to general public use of any riparian rights which the state, at the time it was enacted, may still have retained by virtue of its ownership of lands bordering on a stream, rights in the stream which it would in such cases have in common with owners of other abutting land. It could not affect the riparian rights of the other owners, nor the rights of any person or corporation claiming under them, nor rights previously acquired from riparian owners by prescription, nor rights acquired from the state prior to that time by appropriation under the code, in reliance upon the implied offer of the state to allow its riparian rights to be acquired in that manner, as indicated in the opinion."

This decision certainly effectually destroys the basis for the decision in the case at bar, namely, that the waters of the stream were public property and not the property of the company appropriating them.

III.

A CANAL COMPANY ACQUIRES ITS WATER RIGHT BY EXTINGUISHING, IN TOTO OR PRO TANTO, THE RIGHTS OF THE RIPARIAN OWNERS, AND WHETHER IT ACQUIRES IT BY PRESCRIPTION, BY GRANT OR BY CONDEMNATION IT DOES NOT SUCCEED TO THE RIPARIAN RIGHT BUT EXTINGUISHES THE RIGHT OF THE RIPARIAN OWNER TO OBJECT TO THE DIVERSION, AND IN THE CASE OF A PUBLIC SERVICE COMPANY THE TACIT CONSENT OF THE RIPARIAN OWNER TO THE DIVERSION IS FOR ALL PRACTICAL PURPOSES EQUIVALENT TO A GRANT. THE CONTRACTS WITH THE RIPARIAN OWNERS WERE EQUIVALENT TO EXPRESS GRANTS.

Counsel for appellees again and again in their brief reiterate the claim that Miller & Lux did not convey to the canal company any riparian or other water rights (brief for appellees, pp. 17 and 18). They also state that:

> "There is absolutely not a word in these contracts conveying or granting to the canal company the riparian rights appurtenant to any land bordering on the San Joaquin river that Miller & Lux may have owned" (p. 19).

Counsel's whole complaint seems to be that there is no contract by which Miller & Lux "agreed that the canal company should have the exclusive right to take from the river any water that Miller & Lux were entitled to have applied to the irrigation *of any of its riparian lands*" (p. 19).

Counsel seem to be of the opinion that there should have been a conveyance of the riparian rights as such, but a technical conveyance of a riparian right dis-

associated from the conveyance of the land is a legal impossibility and the Supreme Court of California has correctly stated the effect of such a conveyance in the case of

Duckworth v. Watsonville Transportation Co., 150 Cal. 525,

where it is said:

> "No one can sell or convey to another that which he does not himself own. Grimmer could not by a transfer of his riparian rights sell to the plaintiff, as against third persons having interests in the water, the right to use the water upon any land, riparian or non-riparian, except his own, to which it originally attached. His deed operated to prevent him from complaining of a diversion, but it did not affect other parties. It does not appear that Grimmer had any water rights, except his right as riparian owner to the use of the water of the outlet. It follows, therefore, that Duckworth did not obtain anything by the Grimmer deed except the right to use the water of the outlet on the Grimmer land, when any water was flowing therein, and an estoppel against Grimmer to prevent complaint by him against any use of such water which Duckworth might make to the injury of the Grimmer riparian right as above defined."

It will be seen from this that a grant from a riparian owner simply amounts to an estoppel preventing him "from complaining of a diversion".

But it is held that the mere silent acquiescence of a riparian owner of a diversion for the benefit of the public has the same effect and works the same estoppel:

Fresno etc. Co. v. Southern Pac. Co., 135 Cal. 202;

Southern Cal. Ry. Co. v. Slauson, 138 Cal. 342;

Katz v. Walkinshaw, 141 Cal. 116, 136;
Crescent Canal Co. v. Montgomery, 143 Cal. 248;
Montecito Valley Co. v. Santa Barbara, 144 Cal. 578;
Newport v. Temescal Water Co., 149 Cal. 531;
Miller & Lux v. Madera C. & I. Co., 155 Cal. 59;
Barton v. Riverside Water Co., 155 Cal. 509.

Under these cases the consent of a riparian owner to the diversion prevents him from objecting thereto and leaves him entitled to recover only the damages for the diversion or the compensation agreed upon.

Keeping these facts in mind, it will be seen that even admitting that the agreements with Miller & Lux and the California Pastoral & Agricultural Company, the principal riparian owners on the stream (Trans., pp. 343-349) did not contain express grants to the canal company, they are as efficacious as if they had contained an express grant of riparian rights, or an express grant of the right of the canal company to divert the water in question, and clearly the only compensation which could have been contemplated were the benefits and advantages secured to them by those contracts. But as a matter of fact the contract of August 17, 1898 (Exhibit 11) expressly authorized the canal company to divert seven hundred and seventy-five (775) cubic feet of water per second. The contract of June 4, 1901 (Exhibit 12), expressly authorized the canal company to divert thirteen hundred and fifty (1350) cubic feet of water per second. The contract of May 18, 1899 (Exhibit 10) expressly authorized the diversion of an additional three hundred

and fifty (350) feet of water by the canal company for the outside canal, and all of the contracts contained a tacit consent to the diversion of the water by the canal company and this consent was obtained from Miller & Lux, which the evidence shows has constantly used its riparian rights to prevent the diversion of the waters of this stream (see: *Lux v. Haggin*, 69 Cal. 255; *Miller & Lux v. Enterprise Canal & Land Co.*, 142 Cal. 208; *Miller & Lux v. Madera Canal & Irrigation Co.*, 155 Cal. 59, and *Miller & Lux v. Enterprise Canal & Land Co.* [Cal.], decided December 20, 1913). These cases will show that Miller & Lux has used its riparian rights in order to protect the rights of the canal company, complainant herein, and that it could, except for this contract, have effectually used the same rights to have prevented the company from diverting any water whatever. So far therefore as the value of the rights acquired from Miller & Lux and the California Pastoral & Agricultural Company are concerned, it is immaterial whether they were acquired by grant, acquiescence or prescription, but the fact is irresistible that they were acquired by grant.

IV.

THE DEDICATION OF PROPERTY TO A PUBLIC USE DOES NOT VEST TITLE TO THE PROPERTY IN THE PUBLIC.

We have seen that it has been expressly held that the mere appropriation of water under the statutes of the state does not dedicate the water to the public or affect the title of the appropriator. The appro-

priator is clearly the owner of the water appropriated and can not be deprived thereof without compensation, but it is equally clear that when the company does offer the same for sale, rental and distribution to the public generally this amounts to a dedication of the water to the public, but, as we have seen, not a dedication waiving compensation, but a dedication upon receiving due compensation. Such a dedication, however, does not affect the title of the property, but the company, contrary to the decision herein, still remains the owner of the property. This has been expressly decided by the Supreme Court of California since our opening brief herein in the case of *Pacific Tel. & Tel. Co. v. Eshleman* (Cal.), 137 Pac. 1119, decided December 20, 1913. In that case the court said:

> "And, finally, it may not be amiss to point out that the devotion to a public use by a person or corporation of property held by them in ownership does not destroy their ownership and does not vest title to the property in the public."

V.

THE ARGUMENT THAT, IF THE WATER RIGHTS OF THE CANAL COMPANY WERE CONDEMNED, THE DAMAGES WOULD GO TO THE IRRIGATORS AND NOT TO THE CANAL COMPANY AND THAT THEREFORE THE CANAL COMPANY DOES NOT OWN THEM IS WITHOUT FOUNDATION IN LAW OR FACT.

The legal status of these water rights is that they have been dedicated or devoted to public use upon the express agreement with the state that compensation

shall be paid the canal company therefor. The only private interests then is the right of the canal company to receive this compensation, and this, therefore, would be the only thing to be condemned in order to vest in the public an absolute ownership. To claim that the right to this compensation could be condemned without paying the value thereof *to the party entitled to receive it*, seems to be a perversion of thought.

The only case in which the irrigator would be interested would be if the public sought to take the use of the water from the portion of the public now enjoying it and devote it to the use of some other portion of the public. If we can imagine the state doing anything so stupid the question as to whether the right of the members of the public to enjoy this water is a property right which could not be taken away without compensation would become an interesting one. The latest decision on the subject would seem to indicate that it is not a property right, but merely a right as a member of the public and that the actual exercise of the right by a member of the public gives him no better right than the right of a member of the public who has not enjoyed the use (*Leavitt v. Lassen Irr. Co.*, 157 Cal. 82).

But if it be a property right it is an entirely different right from the right which the canal company owns. The canal company owns the right to divert the water from the river, to possess and protect it, and to sell it, and receive compensation therefor; the irrigator, at most, owns the right to receive the water on his land upon paying the canal company therefor.

The canal company owns the thing itself, the irrigator only a right to purchase a part of it. The interest of the canal company is a right *in* the thing, the interest of the irrigator is at most a right *to* a part of the thing. The right of the canal company is absolute, present and vested, the right of the member of the public is contingent. Without paying the price he can not enjoy the use; and he may at will enjoy or fail to enjoy his floating right, or after enjoying it, may cease to enjoy it either temporarily or permanently. But through all the changes and vicissitudes of time the property right of the canal company remains the same. One person may enjoy the use today and another tomorrow, but the title of the canal company no more changes than does the title of the railroad company to the railroad change because one man rides today and another tomorrow.

VI.

THE CLAIM THAT THE COMPLAINANT CAN NOT CLAIM A DUE RETURN UPON ITS PROPERTY FOR THE ALLEGED REASON THAT THE CLAIM WAS NOT MADE BEFORE THE SUPERVISORS AT THE TIME OF THE PASSAGE OF THE ORDINANCE FIXING THE RATES IS UNFOUNDED.

Counsel claim in several places in their brief that the company is not entitled to any return on certain property because, as they claim, no such right was asserted before the Board of Supervisors. The Board of Supervisors in fixing water rates acts in a legislative capacity and it is expressly held that it need give no notice to the water company affected and that

the water company affected is not entitled to be heard before the board when the rates are fixed.

Spring V. W. W. v. San Francisco, 82 Cal. 286, 315;

San Diego Land & Town Co. v. National City, 74 Fed. 79, 81;

San Diego Water Co. v. San Diego, 118 Cal. 556, 564.

It would certainly be a peculiar rule if the company should be entitled to no notice and to no hearing, and still waive its rights by failing to appear and set them forth. It is true that the record shows that certain evidence was introduced before the Board of Supervisors, among other things, the canals and works of the company, the carriage of water through the same and the loss thereof in carriage (Trans. p. 1299), value of its rights of way (p. 1500), the amount of the original cost of construction, which included the amount paid for water rights (p. 1305), and the fact that we had to defend our "water rights" (p. 1308). Besides this, the whole proceeding is based on the fact that the company was in possession of water and was selling the same to the inhabitants of the county. The record does not show at all the argument or claims made before the Board of Supervisors, and there is no more reason for assuming that the company did not claim the value of its water rights than there is to assume that it did not claim the value of the structures, both of which were included in the investment of the company. There is no suggestion that the company did not readily give the Board of Super-

visors any information which was requested, and in view of the fact that the counties from the time of the filing of their answers herein have taken the position that we do not own the water rights and are not entitled to any return thereon, it must be assumed that they took the same position when the ordinance was passed, and that they did not desire any evidence as to its value, and that if such evidence had been forthcoming it would have in no way affected their action. However this may be, we are simply taking the position that our property is being taken from us without due process of law, and without just compensation, and there is no rule of law requiring the company to introduce any evidence before the Board of Supervisors in order to entitle it to maintain such a suit.

VII.

THE ORIGINAL CONTRACTS WITH MILLER & LUX WERE ACQUIRED WHEN THAT COMPANY HAD NO CONTROL WHATEVER OVER THE CANAL COMPANY AND THE SUBSEQUENT CONTRACTS WERE LESS FAVORABLE TO MILLER & LUX THAN THE ORIGINAL CONTRACTS.

It is admitted that both the contract of May 8th, 1871 (Exhibit 6), and the contract of February 7, 1872 (Exhibit 7), were entered into at a time when Miller & Lux had no control whatever over the canal company, and only owned 500 shares of stock therein out of a total of 100,000 shares. It appears that litigation grew out of these contracts, the canal company repudiating them and attempting to charge Miller & Lux

with the full rate for water furnished, notwithstanding the provision of the contract that they should only pay for each crop a sum not exceeding $1.25 "per acre". After Miller & Lux acquired control of the canal company, a new contract (Exhibit 8) was entered into, by which the rights of Miller & Lux were reduced from 50,000 acres to 33,000 acres, and it was made clear that although the alfalfa should not be cut, but was pastured, they would have to pay $1.25 for each supply of water which might be necessary to produce the crop. It will therefore be seen that the only two changes made in the contract were made in favor of the canal company and against Miller & Lux, and still counsel in its brief would have it appear that Miller & Lux, in some way, used its power over the canal company to get some advantage.

VIII.

THE INTIMATION THAT THE COMPLAINANT HAS NOT COME INTO COURT WITH CLEAN HANDS, OR THAT THE TRIAL COURT SO HELD, IS ENTIRELY UNFOUNDED.

Certainly if either the master or the trial court had been of the opinion that the complainant had not come into court with clean hands and if it had so found, it would not have gone to the painstaking effort of finding the value of complainant's property, its income and expenditures, but would have dismissed the suit on that ground. The fact is that the court never did so hold, nor is there any possible support for any such claim in the record. Appellees base this claim

on the language of the master regarding the meaning of contract Exhibit "E" in which he stated that the dealing between Miller & Lux and the canal company must be in the utmost good faith and that it must come into court with clean hands,—propositions which no one will dispute. He also stated that it would be a perversion of the object of that contract "to apply the same to the carriage of water to lands *which the canal company is able to irrigate* and thus deprive it of a revenue of over twelve thousand dollars".

We would say that this likewise is a proposition which no one would dispute, and which the master and court never even intimated that the canal company or Miller & Lux had ever attempted to dispute.

Let us see, therefore, where the only dispute did arise as to this contract, Exhibit "E". It appears that a suit was pending against the canal company by James J. Stevinson, a riparian owner, to enjoin it from diverting water from the river, and the judge before whom the case was pending announced an opinion to the effect that he would enjoin the canal company from diverting more than 760 feet of water from the river. It will be remembered that at that time the company was diverting something like 1350 feet of water. The court will remember that a prohibitory injunction of that kind is not stayed by an appeal, and therefore for the purpose of avoiding the effect of that decision an agreement was entered into (Exhibit "E", p. 1263) between the canal company and Miller & Lux reciting that:

"Whereas by reason of the decision which has been announced by the Superior Court of Merced County in an action by J. J. Stevinson against the party of the first part it appears that the quantity of water which the party of the first part will hereafter be allowed to divert from said river will be less than the capacity of its canals and will be less than sufficient to enable the party of the first part to supply all the necessary demands of its present consumers; and

"Whereas the parties of the second and third parts are willing, in the event that the party of the first part will allow them the aforesaid use of its dam or weir or canals, to assist in relieving the party of the first part by irrigating their riparian lands with water diverted by them as aforesaid—thus permitting the party of the first part to use the water diverted by it for the irrigation of non-riparian lands."

The agreement then provided that for the carriage of the water to these riparian lands a certain carriage charge should be made, and that if those rates of carriage were not satisfactory they might be readjusted. It should be noted that this agreement was dated December 4, 1905. The master expressly finds that "had the situation been as stated" at the time this agreement was executed it "was a beneficial arrangement to the canal company". As a matter of fact the formal decision and judgment in the case was not rendered until April 2, 1906 (pp. 1136-40), and by that decision the court limited the canal company to seven hundred and sixty feet for non-riparian lands, but made no injunction as to the diversion of water on riparian lands. It resulted from this that the contract (Exhibit "E") was entered into under a misappre-

hension of the extent of the injunction and when the canal company learned that it was not enjoined from diverting water to riparian lands this contract was disregarded and Miller & Lux paid the full rate for all riparian lands irrigated by it. The secretary testified that since the execution of that agreement Miller & Lux never claimed the right under that agreement to divert any water which the canal company itself was entitled to divert (Trans., p. 524), and that in the year 1906-7 Miller & Lux paid the regular rates for all waters diverted, irrespective of that contract (Trans., p. 524). In the year 1907-8, Miller & Lux was charged for all of the water used when not over seven hundred and sixty feet was diverted and was also charged the regular rate for all riparian lands irrigated when more or less than seven hundred and sixty feet was carried in the canals (Trans., pp. 524-525). It was found, however, in the year 1907-8 that instead of this excess water being applied to riparian lands more than seven hundred and sixty feet was being applied to non-riparian lands and that being water that the canal company was not entitled to divert, the only thing left for the company to do was to claim that it merely carried the same for Miller & Lux and made a carriage charge therefor (Trans., p. 525), but here a difficulty arose for the reason that no account had been kept of the amount of water actually diverted on riparian and non-riparian lands, and as a result the engineer was compelled to make an estimate of the amount of land which could be irrigated with the seven hundred and sixty feet

of water, and this was done and the balance of the water was considered as water which was diverted for the benefit of Miller & Lux, and if it used it on non-riparian lands it would have to take the responsibility therefor, and the canal company therefore only collected a carriage charge for the same. The court will readily see the position of the canal company in this regard. If it diverted more than seven hundred and sixty feet of water and used it on non-riparian lands it violated the injunction and its officers would be guilty of contempt of court and subject to punishment accordingly. The situation was an unfortunate one and grew out of the failure to keep proper account of the amount of water actually diverted on riparian and non-riparian lands. The master, after having given the matter full consideration determined that in his judgment all of these non-riparian lands might have been irrigated with the seven hundred and sixty feet of water. If they could have been so irrigated, there is no question but the canal company was entitled to full payment therefor, and no one has ever disputed that proposition. We did think that the master was wrong in his conclusion in that regard, but we hope that he was right, because, if so, there is no basis whatever for any claim of a violation of the injunction, and although it resulted in charging the company with the receipt of a large sum of money, which it did not receive, still, as our opening brief clearly shows, on account of the intricacy of the question we did not seek to review it in this court.

Under these circumstances it appears, without any dispute, that our position in this whole matter was the same as that of the master in the lower court, namely: that if these lands could be or were irrigated with water which the canal company was entitled to divert it should be paid for at the regular rates, irrespective of this contract Exhibit "E", and, notwithstanding that contract, Miller & Lux did pay the regular rate for all riparian lands irrigated as soon as it was discovered that the contract was entered into under a misapprehension, and if the court desires to read the portion of the master's discussion as to whether or not all of the non-riparian land could be irrigated with the seven hundred and sixty feet, it will be found that the master himself shows that it is an extraordinarily close question, on which there was room for a very wide difference of opinion, depending largely on the question as to the duty of water, and there is nothing in the master's opinion that even intimates that the canal company acted in anything but the most scrupulous good faith in this matter, and there is nothing even suggesting, much less supporting the claim made that there was any deliberate attempt to benefit Miller & Lux in this matter. Nor is it true, as counsel state, that we ever claimed that the making of a carriage charge for this water was the result of a mistake. Whatever was done was done by the officials of the canal company openly and under the belief honestly existing as shown by the report of their engineer that this land could not be irrigated and was not irrigated with the seven hundred and sixty feet of

water. When the court decided that matter against us we did not think that it was a matter which we could hope to have this court review on appeal, and the mere fact that we do not urge it on this appeal is not, as counsel state, evidence that we "confessed error" (brief, p. 84); nor that our action was the result of a "little mistake" (p. 84). Of course, it has been decided that we were wrong and that decision from a legal standpoint, so far as it involves a question of fact, makes us wrong as to our interpretation of the facts, but that is quite different from the suggestion of bad faith and illegal conduct so unjustly attributed to us by counsel in this matter.

It is sufficient in this regard to refer this court to the consideration of this subject contained in the master's report contained at pages 137 to 150 for the purpose of showing that the master in determining that we could have irrigated all of this non-riparian land with the water in question did so entirely by reason of what we deem a misapprehension as to testimony of Professor Fortier as to the amount of water required per acre, and as a result he applied Professor Fortier's duty of water, given as two and one-half (2½) acre feet upon the land *without taking into consideration the necessary loss of water by seepage and evaporation which the testimony shows would be at least an average of one-third* (see p. 145) and still appellees use a conclusion of this kind to destroy the good faith of the parties who took the contrary position.

MISCELLANEOUS POINTS.

There are several minor matters contained in appellees' brief, and it will be sufficient to call attention to them without any considerable discussion.

1. Counsel state that in the old case the amount of $112,500 claimed to have been paid to Bensley for water rights was relied upon as showing the amount "invested in the cost of the plant". In the former case, this matter was shown by the same exhibit as was used in this case, namely, Complainant's Exhibit No. 14, page 1105, as being "for water rights, etc."

2. Counsel state on page 19 that there is nothing to show whether the riparian lands of Miller & Lux lie above or below the head of the complainant's canal. This certainly cannot be very important, in view of the fact that Miller & Lux has agreed to permit the company to divert the water and subordinate its rights, whether its lands are above or below the canal, to the rights of the canal company.

3. Counsel attempt to make it appear that the deduction from the structures of twenty-five per cent (25%) was on account of depreciation. This is not true, but on the contrary the master first made a horizontal reduction of twenty-five per cent from the present reproduction cost simply because they could have been built cheaper at an earlier date, and then made a further reduction to cover depreciation.

4. Counsel repeat the error of the trial court in the argument that our claim that the amount lost by reduced rates to riparian owners in consideration of rights granted should be considered in determining

the cost of our water rights is erroneous because this loss goes on indefinitely and the amount would ultimately run into the millions. This is based on an erroneous view of our claim, which is not that the *aggregate amount* of this loss should be considered, but that the *average annual amount* should be capitalized and that we be deemed to have invested an amount equal to the average annual loss thus capitalized. Obviously the amount is constant, no matter how long continued.

5. We do not care to take the time of the court to answer the argument made by appellee to the effect that the canal company should receive a less rate for carrying water through Merced County and into Stanislaus County than for carrying the water only to Merced County. If such an argument does not answer itself, no amount of argument would answer it.

Assuming that the computation of counsel of the percentages of usefulness in the various counties is correctly stated on page 93 of appellees' brief, then it results that the various counties should pay the following percentages of the return from irrigation:

Fresno, 41/195 of $121,000.....$25,420
Merced, 96/195 of $121,000..... 59,520
Stanislaus, 58/195 of $121,000..... 33,960

As Stanislaus County only irrigates 11,000 acres, this would make its proportionate rate about $3 an acre (see Record, p. 169). We are not adopting the correctness of counsels' figures, but simply showing the futility of attempting to make figures prove the contention that a greater aggregate rate should be made for a short haul than for a long haul.

CONCLUSION.

In submitting this case we would say that since this suit was commenced the people of California have come to realize the impropriety of vesting power to establish rates in local boards of supervisors with no special training and often governed by local prejudice, and have vested that power in a state Public Utility Board known as the Railroad Commission. If this court would announce the proper basis upon which the rates of this company should be fixed we can rely upon that board to do complete justice to the company and the public and have this litigation brought to a termination.

Respectfully submitted,

GARRET W. MCENERNEY,
FRANK H. SHORT,
EDWARD F. TREADWELL,
Solicitors for Appellant.

APPENDIX.

S. F. No. 6555 In Bank January 20, 1914

TYNDALE PALMER, OTAY WATER LEAGUE et al., Plaintiffs, vs. RAILROAD COMMISSION OF THE STATE OF CALIFORNIA and SOUTHERN CALIFORNIA MOUNTAIN WATER COMPANY, Defendants.

[1] PUBLIC UTILITIES ACT—ORDER OF RAILROAD COMMISSION—DISMISSAL OF COMPLAINT FOR WATER SERVICE—REVIEW OF ORDER—DUTY OF COURT.—Where upon a proceeding under section 67 of the Public Utilities Act to review an order of the railroad commission dismissing a complaint requesting the commission to order a water company to supply the complainants with water for the purposes of irrigation, it appears upon the showing made to the commission and before the reviewing court that the complainants have no right to such water, the action of the commission will be sustained, regardless of the extent of the judicial power of the commission to make an adjudication of the rights of the complainants.

[2] ID.—WATER RIGHTS—NOTICE OF APPROPRIATION—DESIGNATION OF PLACE OF USE—INSUFFICIENT DEDICATION.—The designation in the notices of appropriation of water of the "places of intended use" thereof, does not constitute a dedication of such water to public use for the benefit of such places, and an order dismissing a complaint for such water service based upon such a claim is properly dismissed.

[3] ID.—WATERS IN NON-NAVIGABLE STREAMS—NATURE OF—PRIVATE WATERS.—Waters flowing in non-navigable streams in this state are in their nature private property, and not "public waters", and there must be a dedication of them to public use to divest the private right.

[4] ID.—ID.—RIPARIAN OWNER—ABSENCE OF RIGHT TO CORPUS OF WATER—MEANING OF RULE.—The true reason

for the rule that there can be no property in the *corpus* of the water running in a stream is not that it is dedicated to the public, but because of the fact that so long as it continues to run there cannot be that possession of it which is essential to ownership.

[5] Id.—Id.—Rights of Appropriator—Title Acquired.—An appropriator under the code obtains no title at all by his appropriation, as against any one except the state and the United States, which have consented that he shall thereby obtain the rights pertaining to any public land over which the stream may run, and not because of any existing dedication of such waters to public use, or because of the fact that they are held by the United States or by the state for public use, and as against all other persons interested in the riparian lands or in the water, he must acquire the rights he claims in some other way than by mere appropriation.

For Petitioners—Tyndale Palmer.

For Intervenor—W. R. Andrews, City Attorney, San Diego.

For Respondent—Max Thelen, Douglas Brookman; John M. Eshleman, of Counsel.

For Southern California Mountain Water Company—H. L. Titus, R. G. Dilworth and H. E. Doolittle.

This is a proceeding under section 67 of the Public Utilities Act (Stats. Ex. Sess. 1911, 55) to review an order of the railroad commission dismissing a complaint which the petitioners filed and presented to the commission.

In their complaint the plaintiffs alleged that said water company was engaged in the business of distributing and selling water for public use for irrigation, domestic and other purposes in San Diego county, that it has in its possession and control large quantities of water appropriated to said use, that it obtained said water by virtue of notices of appropriation, posted as provided in the Civil Code, in which the Otay Valley was designated as one of the places of intended use, that the several plaintiffs own lands in the Otay Valley below the level of the pipe lines of said company and within one mile thereof, that their lands require irriga-

tion, that they desire to obtain water from said company for that and other beneficial purposes to be used on their said lands, that they have demanded the same from said company, offering to pay the established water rate therefor, but that the company refused to let them have any water, except on condition that they first deposit the cost of connecting the company's pipes with their lands. They further averred that they believed that they were legally entitled to receive from said company a portion of said water.

They asked the commission to fix a just rate of charges for such water, to order the company to supply water to them and others entitled thereto at such rates, to direct it to discontinue making any charge to consumers for connecting lines or for meters, and to forbid the company from charging a different rate for domestic use where water was also furnished to the same land for irrigation.

Upon the hearing it was agreed that the commission should first ascertain and determine whether or not the plaintiffs had the right to receive from the company the water they claimed. The principal dispute and the only matter of importance was the claim of the plaintiffs to receive water from the company for irrigation. Some three or four of them were and still are receiving water from the company for domestic use, but as we understand the record, the commission found that they were still entitled to receive the water for that purpose, and so declared. The grievances relating to that use were not deemed of sufficient importance to justify an inquiry at that time by the commission, and it did not decide that no such right thereto existed. Upon the claim that the plaintiffs were entitled to water for irrigation, the commission, upon the evidence, determined that they did not have such right and thereupon and for that reason refused to proceed with the application and dismissed the complaint.

[1] We need not determine here whether or not the commission has judicial power authorizing it, in the course of its duties and for the purpose of determining whether or not it will entertain a complaint presented to it, to make an adjudication of the right of the com-

plainants to the water service of which they ask regulation, or that the decision in this case is such an adjudication. If it appears upon the showing made to the commission and before this court that they had no such right thereto, the action of the commission in dismissing the proceeding should be sustained, regardless of the extent of the judicial power it may have. The commission is not bound to investigate alleged abuses and make and enforce regulations for the conduct of a public utility at the instance of persons who have no interest in the service. If it wrongfully refuses to do so, the remedy of the aggrieved party would be *mandamus*, not *certiorari*. *Mandamus* is allowed by section 67 of the Public Utilities Act, for such refusal. We are of the opinion that the complainants, upon the showing made, have no right to receive water for irrigation of their lands. It may be that they still retain the right to an adjudication by a competent court, notwithstanding the decision of the commission and of this court in this proceeding.

[2] The sole ground upon which they claim the right to a share of the water for such irrigation is that their lands are included in the places designated in the notices of appropriation posted by the company as the "places of intended use" of the water claimed in such notices. The theory of the plaintiffs is that this designation of places of intended use constituted a dedication of the waters claimed in the notice to public use for the benefit of all the territory embraced in the designated places, and that when water was thereafter diverted in pursuance of the notices, the persons owning lands within any of the places named have the right to demand a proportional share of such water for use upon such land. In this connection, plaintiffs argue that the waters flowing in non-navigable streams in this state are by law deemed "public waters", devoted to public use for the benefit of the lands, whether contiguous or not, to which they can conveniently be conducted by artificial means; that it was perceived by the legislature that in many places the supply of water would be far too small to serve the entire accessible area and that some method must be devised of determining the limits to which the

dedication should extend; that for this purpose the provision was made in the Civil Code, requiring the person claiming the water and posting the notice to designate the place of use; and that it was intended that thereby the right to the supply should be divested from the general area of lands accessible to the supply and vested exclusively in the places designated.

[3] The theory that the water of a non-navigable stream in this state is in some sense "public water" has been advanced before. It has been claimed that a diversion of water under the provisions of the Civil Code (secs. 1410 to 1422) constitutes a grant of the water by the state to the appropriator. The idea may have arisen from the statement sometimes made in the decisions that the riparian owner has no right in the *corpus* of the water (*Eddy v. Simpson*, 3 Cal. 252), and that running water cannot be made the subject of private ownership, that the right to use the water of a stream "carries no specific property in the water itself". (*Kidd v. Laird*, 15 Cal. 179.) This is far from saying that the property in the water is vested in the public, either for general use, or as property of the state. The doctrine that it is public water, or that it belongs to the state because it is not capable of private ownership, has no support in the statutes of the state or in any decision of this court.

[4] The true reason for the rule that there can be no property in the *corpus* of the water running in a stream is not that it is dedicated to the public, but because of the fact that so long as it continues to run there cannot be that possession of it which is essential to ownership. It is in this respect similar to the air, which cannot be said to be possessed or owned by any person unless it is confined within impervious walls. One may have the right to take water from the stream, even the exclusive right to do so, but in that case he does not have the right to a specific particle of water until he has taken it from the stream and reduced it to possession. It then ceases to be a part of the stream. Such right to the water of running streams as there is under the law is vested entirely in the several riparian owners along its course. It is subject to the common use of all riparian owners, but neither has

a specific property in any part of the water while it remains running in the stream. The United States, with respect to the lands which it owns in this state is a riparian proprietor as to the streams running through such lands. It is only by virtue of that fact that it has any right or power of disposition over the waters thereof. And its right and power in that respect is no greater and no less than that of any other riparian proprietor. By the act of July 26, 1866 (14 U. S. Stats. 251), the United States consented that private persons might acquire rights to water flowing in streams through its lands by taking possession thereof, that is, by diverting the same, in such manner as should be provided by the laws of the particular state. Where such diversion had not been made, a grant of its lands by the United States to a private person without reservation, would carry with it the riparian rights pertaining to that land in streams flowing through it, in the same manner as in the case of a grant of land by a private owner. So, also, the state, with respect to the lands it owns which are not devoted to a specific public use, is in the same category as any other landowner. It has riparian rights with respect to such land in the streams running over it, which its grant carries to the grantee. The provisions of the Civil Code above mentioned have the effect of a declaration by the state that any person who may divert water from a stream in pursuance of those provisions will thereby obtain a right in the stream paramount to the riparian rights which the state may have therein by virtue of the fact that the stream may run over lands then belonging to the state. To that extent it operates as a grant from the state, but this is only because the state had the riparian right, and not because the water was in any sense public water devoted to public use.

These questions received elaborate treatment in the leading case of *Lux v. Haggin*, 69 Cal. 255. On page 390 the fundamental principle is thus stated: "The right of the riparian proprietor to the flow of the stream is inseparably annexed to the soil, and passes with it, not as an easement or appurtenance, but as part and parcel of it." If this be true, then the right

to the water is no more public than the right to the land. As to the title of the United States, it is said on page 336: "The lands of the United States (not reserved or purchased for fortifications, etc.) are held, since the admission of the state into the Union, as are held the lands of private persons, with the exception that they are not taxable." It is further shown that even if it be conceded that prior to the cession from Mexico the government of that country possessed a title to the waters, or a power over them, which was in some respects public in its nature, a point not decided, nevertheless this title passed to the United States by the cession from Mexico, and afterwards, by the admission to the Union, passed from the United States to the State of California, and that the act of April 18, 1850, adopting the common law as the law of this state, "should now be held to have operated (at least from the admission into the Union) a transfer or surrender to all riparian proprietors, of the property of the state—if any she had—in innavigable streams and the soils below them". (P. 338.) The riparian owners here referred to were the United States, the state itself with regard to school lands and other lands received from the United States, and the then existing purchasers from either of them. It also declares (p. 372): "As we have seen, one who, since the acts of congress of 1866 and 1870, receives a grant of a portion of the public lands of the United States, without special or implied reservations, takes subject only to appropriations of water made or initiated prior to the grant." Referring to the effect of an appropriation with respect to state lands, it is said (p. 374): "The state had granted the waters running to its own lands, by authorizing the diversion of waters from its lands (referring to the Civil Code provisions), and doubtless such grantees acquire the state property in the waters whenever the state has a property in the waters at the time of the grant." The case then proceeds to state the reasons for the adoption of these provisions of the code. As these seem now to be misunderstood by many, it may be well to again state the conditions which led to the enactment and the purpose sought to be attained.

At the time of the admission of California to the Union and for many years afterwards, the lands embraced within its limits, excepting the Mexican grants, which were located mainly in the valleys, were, for the most part, the property of either the United States or of the state. There was urgent need for the use of the waters of the streams, especially in the mining operations which then constituted the main resource of the state. There were no laws provided whereby the right to divert and use these waters could be acquired from the state or from the United States. Both sovereignties, however, permitted such diversion by any one who could put the water to beneficial use. Diversions were accordingly made and immediately there began to arise disputes relating to interfering diversions from the same stream, which speedily found their way into the courts and it became necessary to ascertain the rules of law by which claims of that kind were governed. An analogy was found in the rules of the common law relating to controversies over the possession of land between persons who had no title thereto and in which the real owner did not interfere or intervene. (See *Katz v. Walkinshaw*, 141 Cal. 135.) It was held that, since the real owner of the water rights, that is, the United States or the state, permitted these diversions and was not in court to assert its rights or to be bound by the decision, the matter between the persons litigating was to be decided according to the rules of law in regard to priority of possession of land. The diversion of the water was declared to be the equivalent of possession and the doctrine was laid down that he who was first in time was first in right. But it soon appeared that valuable rights were involved before there was or could be an actual diversion. The making of a dam was necessary before water could be taken, and this frequently required considerable time and the expenditure of large sums of money. It was necessary to define the rights which accrued from the labor and expense of constructing the diversion works, with respect to different works begun about the same time and before any actual diversion by either claimant. To meet this condition, the courts held that the person who first began the construction of such works and did so in such manner

that his intent to divert water thereby was manifest, was entitled to priority in the diversion subsequently made by him, provided he acted in good faith and prosecuted the work with reasonable diligence. The cases stating this doctrine are cited in *Inyo C. W. Co. v. Jess*, 161 Cal. 519. Difficult questions of fact would also arise with respect to the actual dates of the beginning of work on the conflicting claims, questions which would generally have to be determined after the lapse of years and when the dates could not be satisfactorily ascertained. And it was also found that frequently a person intending to divert water would be put to great expense in the mere preparation necessary to begin the work and before any actual and visible operations upon the stream itself could be initiated. The provisions of the Civil Code, particularly section 1415, requiring the posting of a notice, section 1416, allowing sixty days within which to begin the "excavation or construction of the works", and section 1418, declaring that upon compliance with the code the claimant's right would relate back to the time of the posting of the notice, were made to remedy and remove the practical difficulties which previously existed in adjudicating the rights of hostile claimants under these circumstances. (*Inyo C. W. Co. v. Jess*, supra.) There is absolutely nothing in this statute to indicate that the legislature supposed that the appropriation made in pursuance thereof was in the nature of a grant by the state of any property of the state in the water of the stream from which the diversion was to be made. As stated in *Lux v. Haggin*, supra, the statute was a consent by the state to the taking of the water so far as it infringed upon the riparian rights of the state by virtue of any lands which it might own situated upon the stream, and to that extent it operated as a grant. But that was a grant of a right which was private in its nature, a right pertaining to the particular tracts of land owned by the state and held by the state only because of such ownership. It was not a general right to the waters of the stream as a whole. And unless it happened that the state owned land upon the stream at the time of the diversion, a condition which in fact seldom occurred, the state would part with no right whatever by the appropriation. As we

have seen, there was no existing public right in the waters which the state could transfer to the appropriator. The whole purpose of the statute was to provide evidence whereby parties claiming under hostile diversions could establish their respective priorities and corresponding rights to the water and avoid the former difficulties in establishing the precise date of the inception of their respective enterprises. (*Inyo etc. Co. v. Jess*, supra, p. 520.)

[5] The appropriator under the code obtains no title at all by his appropriation, as against any one except the state and the United States. Such right as he obtains from these he receives because of the fact that by the law of 1866 and by the provisions of the code, the United States, and the state, respectively, have consented that he shall thereby obtain the rights pertaining to any public land over which the stream may run, and not because of any existing dedication of such waters to public use, or because of the fact that they are held by the United States or by the state for general public use. As against all other persons then interested in the riparian lands or in the water of the stream, he must acquire the right he claims in some other way than by the mere appropriation in compliance with the code. He may do so by purchase and grant from such other claimants and owners, or he may do so by prescription, that is, by adverse use for the period of five years without interruption by the real owner. The only aid which his appropriation notice will afford him in establishing title by prescription against the riparian owner is that it may be admissible as evidence tending to show the date of the beginning of his hostile diversion. In suits against others as mere appropriators, it establishes the date of the inception of his right.

The proposition that the waters of a non-navigable stream are in their nature private property and not property primarily devoted to public use is not only established by authority; it is demonstrable from well-established principles of the law of real property. The right to the waters of a stream is real property, a part of the realty of the riparian lands originally, and a part of the realty as an appurtenance to any

other lands to which it may be rightfully taken when the riparian rights have been divested in favor of the user on non-riparian land. This was decided as early as *Hill v. Newman* (5 Cal. 446), where the court said: "The right to water must be treated in this state as it has always been treated, as a right running with the land, and as a corporeal privilege bestowed upon the occupier or appropriator of the soil; and as such, has none of the characteristics of mere personalty." (See, also, *Lux v. Haggin*, 69 Cal. 392; *Santa Paula v. Peralta*, 113 Cal. 43; *Stanislaus W. Co. v. Bachman*, 152 Cal. 725; *Shurtleff v. Kehrer*, 163 Cal. 26; *Merritt v. Los Angeles*, 162 Cal. 50; *Copeland v. Fairview etc. Co.*, 165 Cal. —, 131 Pac. 121.) Until some change is made in natural conditions, there is no existent right to the water of a stream, except that vested in the riparian owners. They alone can lawfully have access to the stream, and therefore they only, in a state of nature, may lawfully use it or divert it from the stream. Hence, the right to the water of flowing streams in this state, prior to any sale or disposition of lands by the state or by the United States, was vested in the state or in the United States, not in their respective governmental capacities as sovereign and for the common use of the people, but as riparian owners in their respective capacities as landed proprietors. These rights were and still are strictly proprietary and in their nature private. When land was disposed of by either, the riparian water right pertaining thereto passed to the purchaser as a part of that realty. It necessarily remained a private right, since the sale did not have the effect of dedicating it to public use. All these rights belong primarily to the riparian owners, consisting of the United States, the state, and purchasers from one or the other of them. They cannot be divested from these riparian owners and have not been divested from them, except by their consent, expressed, as by statute or by actual grant or contract, or implied, as by prescription; or by enforced taking for public use, as by condemnation. It follows that they remain private property when they pass to purchasers, and that when they pass from the riparian owner to others by prescription, grant or consent, they do not by that transfer become im-

pressed with any public use and it still remains true that there must be a dedication to public use to divest the private right. They are no more public than is the land to which they belonged and of which they formed a part.

Finally, on this point, the decisions in this state are to the same effect. *Lux v. Haggin*, we have already mentioned. The recent case of *Thayer v. California Development Co.*, 164 Cal. 125, states the rule to be that the right obtained by an appropriation under the code, is a private right, that the waters appropriated are not thereby appropriated to public use, and that they remain private property until the appropriator dedicates them to public use, which he may do or not at his own pleasure. The other cases holding this doctrine directly or in effect are cited in that case.

The result of these conclusions is that the Southern California Mountain Water Company did not dedicate the appropriated waters to public use by posting these notices, that whatever dedication it may have made of the waters to public use was made in some other manner and that the territory to which that water is dedicated is not necessarily the same as the places of intended use named in the notices. That territory being far in excess of that which the water could supply, the dedication would be manifested by the act of carrying the water to some place and there selling it to those who apply, or by agreeing to supply some specified district with the water. The company has not supplied, or agreed to supply, the plaintiffs with water for irrigation. The water it has, according to the findings of the commission, is necessary to supply the inhabitants of the city of San Diego. It follows that the plaintiffs have no right to receive additional water from this supply for purposes of irrigation upon their lands and that the order dismissing the proceeding is not injurious to them.

The order of dismissal is affirmed.

SHAW, J.

We concur:
HENSHAW, J.
LORIGAN, J.
MELVIN, J.
ANGELLOTTI, J.

S. F. No. 6555 In Bank February 19, 1914

*TYNDALE PALMER et al., Plaintiffs, vs. RAILROAD COMMISSION OF THE STATE OF CALIFORNIA, Defendant.

[1] WATER RIGHTS—ACQUISITION BY APPROPRIATION—DENIAL OF PETITION FOR REHEARING OF APPEAL—CODE AMENDMENT OF 1911 INAPPLICABLE.—It is *held* in denying a petition for a rehearing of this appeal (47 Cal. Dec. 201) that the amendment of 1911 to section 1410 of the Civil Code declaring that "all water or the use of water within the State of California is the property of the people of the State of California", is inapplicable to the case.

[2] ID.—ID.—VESTED RIGHTS UNAFFECTED BY AMENDMENT.—Water rights acquired under appropriation made prior to the passage of such amendment are not divested thereby.

[3] ID.—ID.—POSSIBLE EFFECT OF AMENDMENT.—The amendment may possibly be effective as a deduction to general public use of any riparian rights which the state, at the time it was enacted, may still have retained by virtue of its ownership of lands bordering on a stream, rights in the stream which it would in such case have in common with the owners of other abutting land.

For Petitioners—Tyndale Palmer.

For Intervenor—W. R. Andrews, City Attorney, San Diego.

For Respondent—Max Thelen, Douglas Brookman; John M. Eshleman, of Counsel.

For Southern California Mountain Water Company—H. L. Titus, R. G. Dilworth and H. E. Doolittle.

BY THE COURT.

[1] In a petition for rehearing the plaintiffs quote the opening clause of the amendment of April 8, 1911, to section 1410 of the Civil Code. The section formerly

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*47 Cal. Dec. 201.

read as follows: "The right to the use of running water flowing in a river or stream or down a canyon or ravine may be acquired by appropriation." By the amendment this was prefaced by the following declaration: "All water or the use of water within the State of California is the property of the people of the State of California." This, it is claimed, is contrary to the doctrine declared and followed in the opinion of this court herein. This section was not cited in the briefs upon which the case was submitted. We refer to it now solely in order to show that it has no application to the case. [2] All the water rights which were in dispute in the case arose and were acquired by and under appropriations made long before the passage of the amendment aforesaid. It ought not to be necessary to remind any one that a law of this character is not retroactive, or that it cannot operate to divest rights already vested at the time it was enacted. [3] The amendment may possibly be effective as a dedication to general public use of any riparian rights which the state at the time it was enacted, may still have retained by virtue of its ownership of lands bordering on a stream, rights in the stream which it would in such cases have in common with owners of other abutting land. It could not affect the riparian rights of the other owners, nor the rights of any person or corporation claiming under them, nor rights previously acquired from riparian owners by prescription, nor rights acquired from the state prior to that time by appropriation under the code, in reliance upon the implied offer of the state to allow its riparian rights to be acquired in that manner, as indicated in the opinion.

The petition for a rehearing is denied.

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In the Supreme Court

OF THE

United States

October Term, 1913.

Supreme Court, U. S.
FILED
JAN 13 1914
JAMES D. MAHER
CLERK

The San Joaquin and Kings River Canal and Irrigation Company, Incorporated (a corporation), *Appellant*, vs. The County of Stanislaus in the State of California et al., *Appellees.*	No. 303

BRIEF FOR APPELLEES.

James P. Langhorne,
L. J. Maddux,
Parker S. Maddux,
Denver S. Church,
M. F. McCormick,
H. S. Shaffer,
Solicitors for Appellees.

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In the Supreme Court
OF THE
United States

OCTOBER TERM, 1913.

THE SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY, INCORPORATED (a corporation),
Appellant,
vs.
THE COUNTY OF STANISLAUS IN THE STATE OF CALIFORNIA et al.,
Appellees.
No. 303

BRIEF FOR APPELLEES.

Not being satisfied with the statement by the appellant, we submit the following:

Statement of the Case.

This suit was brought by complainant, the appellant, against defendants, the appellees, to have the Court vacate and annul certain ordinances passed by the Supervisors of the Counties of Stanislaus, Merced and Fresno, fixing under the California Statute of March 12, 1885 (Stats. 1885, p. 95), the rates to be

charged by complainant for water appropriated and supplied by it to the inhabitants of said counties as provided by said statute. A copy of said statute is appended to this brief as Appendix.

Complainant's application for such relief is based upon the allegation that the water rates so fixed would not permit it to receive a reasonable return upon the value of its property so devoted to public use and would, if enforced, deprive complainant of its property without due process of law in violation of the provisions of the fourteenth amendment to the Constitution of the United States (bill of complaint, par. 53, Rec. p. 11).

Upon the commencement of the suit, the Circuit Court, upon the bill of complaint and affidavits, granted complainant an injunction *pendente lite* against the enforcement of the rates after the then pending irrigation year 1907-8; that is, the rates fixed by the counties in May and June, 1907, were by the Court allowed to be in force *pendente lite* only during the said irrigation year commencing July 1, 1907, and ending June 30, 1908.

While the bill of complaint attacks three sets of water rates, viz.: those fixed in 1896, in 1904, and in 1907, yet it is conceded by all the parties that the rates of 1896 and 1904 were superseded by those of 1907, and that the water rates of 1907 are the only ones in controversy in this suit.

When the case was at issue, the Circuit Court, *by consent of the parties*, made its order referring the

case to the standing Master of the Court, the Hon. E. H. Heacock, to decide the issues in the suit (Rec. p. 56).

The Master took and heard the oral and documentary proofs submitted by the parties. The case was argued by counsel before the Master, who thereafter made and filed his written report to the Court of his findings of facts and conclusions of law (Rec. pp. 56 to 159).

The Master in his report found the facts, and rendered his conclusions of law and decision in favor of defendants and against complainant, viz.:

> "That the concurrent operation of the annual rates fixed by the respective Boards of Supervisors of the three counties of Fresno, Merced and Stanislaus, to go into effect on the 1st day of July, 1907, *would produce a net income* upon all the property of complainant used and useful in the appropriation and furnishing of water to the inhabitants of said counties in the year commencing July 1, 1907, *of 7.704 per cent, and that such net income would be a just and reasonable compensation to* the complainant for the furnishing of such water" (Rec. p. 159).

The summary of the Master's findings of facts and conclusions of law, as set forth on pages 158 and 159 of the printed record, is as follows:

SUMMARY.

Fresno County.

Value of Earthwork.....	$155,370.73	
Value of Structures.....	99,439.12	
Rights of Way.....	13,414.00	
Land at Headworks.....	1,568.80	
		$269,792.65

Merced County.		
Value of Structures.....	$104,137.40	
Value of Earthwork.....	243,060.08	
Rights of Way.....	101,955.00	
Land at Quinto Section House	7,700.00	
Los Banos Lots.....	600.00	
		$457,452.48
Stanislaus County.		
Value of Earthwork.....	$31,064.47	
Value of Structures.....	17,284.08	
Rights of Way.....	28,750.00	
		$ 77,098.55
Total of above property.....		$804,343.68
Additional personal property kept on hand		8,930.84
Interest at 7 per cent on investment during construction		63,555.03
Amount of money necessary to be kept on hand		20,000.00
Total value upon which complainant is entitled to a net income of at least 6 per cent.....		$896,829.55
Total receipts.....	$136,697.35	
Maintenance Account.... $67,114.84		
Excise Tax... 488.10	67,602.94	
Net Income	$ 69,094.41	

$69,094.41 divided by $896,829.55, equals 7.704 per cent income.

For the reasons set out in this opinion, I find that the concurrent operation of the annual rates fixed by the respective Board of Supervisors of the three counties of Fresno, Merced and Stanislaus, to go into effect on the 1st day of July, 1907, would produce a net income upon all the property of complainant used and useful in the appropriation and furnishing of water to the inhabitants of

said counties in the year commencing July 1, 1907, of 7.704 per cent, and that such net income would be a just and reasonable compensation to the complainant for the furnishing of such water'' (Rec. p. 159).

Complainant filed certain exceptions to the findings of fact and conclusions of law set forth in the Master's report (Rec. pp. 171 to 176), and, upon final hearing, the Circuit Court confirmed the Master's report and findings, except that the Court, as against the Master's finding, allowed complainant the sum of $9,561.06 as the annual depreciation of its plant (Court's opinion, Rec. p. 213). Such allowance would reduce the annual net revenue of $69,094.41 as found by the Master to $59,533.35, which would give complainant an annual net return of 6.63 per cent, under the county water rates complained of, upon $896,829.55, the value of its plant as found by the Master. Upon such confirmation of the Master's report, the Circuit Court entered its decree dissolving the injunction *pendente lite* and dismissing the bill of complaint (Rec. pp. 181-183).

Brief of Argument.

Water-Rights.

THE MASTER AND THE CIRCUIT COURT DID NOT ERR IN REFUSING TO INCLUDE IN THE VALUATION OF COMPLAINANT'S PLANT THE ALLEGED VALUE OF THE SO-CALLED "WATER RIGHTS" THAT COMPLAINANT CLAIMS TO OWN.

Counsel for complainant devote the major part of their argument in support of the claim that appellant, at the time of the fixing of the water rates by the

county boards of supervisors in 1907, had the right to divert from the San Joaquin River 760 cubic feet of water per second; that such right of diversion was alleged in the bill of complaint to be of the value of $760,000.00 (Rec. p. 3); that the value of complainant's water rights was $750,000.00 (brief p. 7), and that the Master and the Court erred in refusing to include in the valuation of complainant's works any value for such claimed water right.

Had the alleged water right been valued at $760,000.00, and added to the $896,829.55 valuation of the works found by the Master and the Court, the total valuation would have been $1,656,829.55, and the appellant's net annual income from the rates complained of would have been 3.65 per cent upon such valuation after deducting the charges for maintenance, etc., as finally approved by the Court.

(a) **ASSUMING, FOR THE ARGUMENT, THAT COMPLAINANT WAS THE OWNER OF SAID ALLEGED WATER RIGHT AT THE TIME THE RATES WERE FIXED BY THE COUNTY SUPERVISORS, NEVERTHELESS IT HAS NO STANDING IN THE FEDERAL COURT TO COMPLAIN OF THE NON-INCLUSION OF THE VALUE OF SUCH WATER RIGHT, BECAUSE WHEN THE RATES COMPLAINED OF WERE BEING FIXED BY THE COUNTY SUPERVISORS UPON APPELLANT'S OWN INITIATIVE AND PETITION, IT WHOLLY FAILED TO CLAIM BEFORE SAID RATE BOARDS THAT IT OWNED ANY WATER RIGHT, OR TO SUBMIT TO THEM ANY EVIDENCE OF THE VALUE OF ANY SUCH WATER RIGHT.**

The proceedings to have complainant's rates for the year commencing July 1, 1907, fixed by the county boards of supervisors under the State Irrigation Act

of 1885, were inaugurated by complainant (Rec. pp. 7, 8, 9).

Upon the trial of this suit before the Master, defendants offered and there were introduced and admitted in evidence the proceedings and evidence that were had and introduced before the boards of supervisors of the counties of Stanislaus, Merced and Fresno, in the matter of their hearing of complainant's petition to fix the water rates of 1907, complained of by complainant in this suit (Rec. pp. 642, 643, 644; Exhibit N, Rec. pp. 1287 to 1347; Exhibit 20, Rec. p. 1126; Appellant's maintenance accounts from 1895 to 1906, Rec. pp. 1341 to 1347).

Said Exhibit N (Rec. pp. 1287 to 1347) sets forth all the proceedings had before said rate board, and notes all the testimony and other evidence introduced by complainant on the one side and by the counties and irrigators on the other. This evidence by complainant consisted of certain written estimates and testimony by its engineer, R. H. Goodwin, as to the cost of reproducing the earthwork and structures, and which written estimates were the same as complainant's Exhibit 1 (Rec. pp. 930 to 1058. See also appellant's brief p. 111); and of the testimony of other witnesses as to the cost of excavation, lumber and material, as to the value of the right of way, as to the seepage and evaporation of water, as to the number of acres of land irrigated, as to the receipts from water, and as to costs of maintenance; *but complainant did not before said boards of supervisors make any claim that it owned any water right, nor did it introduce before said boards any evidence as to any value of any water right, nor*

was any water right referred to by the complainant, or by any person during the hearing before these rate boards. It may also be here noted that the record in the former rate case between these same parties as to the county rates of 1896, and decided by this Court in 192 U. S. p. 201, will show that complainant in that suit made no claim that it owned any water right, or that any value of any water right had been excluded from the valuation of its plant.

Not until this present suit did complainant ever claim that it owned a water right and that such water right had a value which should have been included.

Complainant is here complaining that the rates fixed by the county boards in 1907 are, as a whole, confiscatory, in that they will not give it an annual income of at least 6 per cent upon the value of its plant, and this contention is based almost entirely upon the claim that this is so because the alleged value of such water right has not been included by the Master and the Court in valuing its plant. Our reply to this is that complainant has no standing in a Court of equity to ask a decree vacating water rates made by the county boards, as unreasonably low because the value of an alleged water right was excluded, when it appears, as here, that it never, when before those boards on its own petition to fix rates, made the claim that it owned a water right, and never introduced any evidence as to the value of any water right and never once referred to a water right in any connection. We are aware that the Courts have held in a number of rate cases that they will not review the evidence upon which rate boards may have acted, when it does not appear that

they have acted arbitrarily, but such rulings were made in response to claims by public service corporations that the rate boards had acted without considering competent or sufficient evidence. Such cases differ, we submit, from the question here presented and which comes within the rulings of this Court in the cases presently referred to.

The rate fixing board is not supposed to know except from the evidence furnished it by complainant of what its properties subject to valuation, consist, and we ask was it ever contemplated that a public service corporation, failing to disclose to such board that it owned a valuable piece of property, could, *after the board had fixed the rate*, have a right to ask any Court to set aside such rate because the board had excluded the value of such particular element of its property undisclosed by it to the board, and in no manner called to its attention?

In *Home Telp. & Telg. Co. v. Los Angeles*, 211 U. S. 265, where this Court refused to restrain the enforcement of a city ordinance regulating telephone rates, it is said (p. 281):

> "It is to be taken into account in considering this, as well as other questions, that the appellant has declined to furnish to the council facts within its knowledge which would enable the council to exercise their powers intelligently and justly."

In *Knoville v. Knoxville Water Co.*, 212 U. S. 1, this Court, after calling attention to the fact that a rate ordinance was the exercise of a legislative function, proceeds to say (p. 8):

> "There can be at this day no doubt, on the one hand, that the courts, on constitutional grounds, may exercise the power of refusing to enforce legislation, nor, on the other hand, that the power ought to be exercised only in the *clearest cases.* The constitutional invalidity should be manifest, and where that invalidity rests upon disputed questions of fact, *the invalidating facts must be proven to the satifaction of the Court.*" (Italics ours.)

and, again (p. 18):

> "The city authorities acted in good faith, and they tried, without success, to obtain from the company a statement of its property, capitalization and earnings."

Speaking of the regulation of public service corporations, the Court further says (p. 18):

> "It is a delicate and dangerous function and ought to be exercised with a keen sense of justice on the part of the regulating body, *met by a frank disclosure on the part of the company to be regulated.*" (Italics ours.)

We think that the above rulings of this Court clearly establish the principle that a public service corporation has no standing in Court to complain of, or to have adjudged as unreasonably low, the rates made by a state board, when it appears, as here, that complainant's claim is based chiefly upon its assertion that certain of its properties were not valued, and when it also appears, as here, that the rate fixing proceeding was inaugurated by complainant before the rate board, and that it wholly failed to introduce before such board any evidence as to the value of such alleged omitted property, or to then claim to own it, or to refer to it in any manner.

Furthermore, the same record of proceedings before the rate boards shows that complainant never claimed to own, nor referred to, nor introduced any evidence of value as to any "franchise", or as to any "good will", or as to any "going concern", although it now claims that the alleged values of such things should have been included in estimating and fixing the rates.

(b) **ASSUMING, FOR THE ARGUMENT, THAT COMPLAINANT WAS THE OWNER OF SAID ALLEGED WATER RIGHT AT THE TIME THE RATES WERE FIXED, NEVERTHELESS THERE IS NO PROOF IN THE RECORD THAT THE WATER RIGHT COST COMPLAINANT OR ITS PREDECESSORS ANYTHING. SO FAR AS APPEARS FROM THE RECORD, COMPLAINANT AND ITS PREDECESSORS ACQUIRED THE ALLEGED WATER RIGHT BY SIMPLY DIVERTING AND TAKING THE PUBLIC WATERS FROM THE PUBLIC STREAMS OF THE STATE WITHOUT ANY OBJECTION FROM ANY RIPARIAN OR OTHER CLAIMANT OF WATER. CONSEQUENTLY, THE WATERS SO DIVERTED WERE PUBLIC WATERS OF THE STATE OF CALIFORNIA, OPEN TO DIVERSION AND USE BY THE PUBLIC, AND AS COMPLAINANT AND ITS PREDECESSORS PAID NOTHING FOR SUCH WATERS OR FOR THE RIGHT TO DIVERT THEM, COMPLAINANT HAS NO RIGHT TO HAVE ITS ALLEGED WATER RIGHT VALUED IN THE PROCEEDING TO FIX THE RATE TO BE CHARGED BY IT TO THE PUBLIC FOR USE OF SUCH WATERS.**

As to this matter, complainant claims (brief pp. 106 to 109) that it and its predecessors have paid the following for its alleged water rights, viz.:

To John Bensley	$112,500.00
To Miller & Lux in rebates from water rates.	188,263.00
To Miller & Lux in surplus waters valued at.	166,666.00
Total	$467,429.00

The Master, as appears from his report, examined fully and most carefully into this claim, and found that no such moneys or considerations, or that any consideration, had been paid by complainant, or its predecessors, for the alleged water rights (Rec. pp. 106 to 117).

JOHN BENSLEY WAS NOT PAID $112,500.00, OR ANYTHING, FOR ANY WATER RIGHT.

As to the alleged expnditure of $112,500.00 to John Bensley for water rights, complainant attempted to prove that in 1871, one of its predecessor corporations had paid to Bensley said sum for water rights, and for such purpose its Secretary Merritt, who entered complainant's employ in 1883 (Rec. p. 333), testified upon his direct examination that, according to his best recollection, the books showed that Bensley had been credited with a stock assessment amounting to $112,500.00, in consideration of "water rights, etc., and rights of way" (Rec. p. 337).

Upon cross-examination he stated that he did not know of the transaction of his own knowledge; could not tell what book it was found in; did not remember what the entry in the book was, but thought it had appeared in a book that had been destroyed (Rec. pp. 376-377). Complainant also introduced two statements, Exhibits 13 and 14, purporting to give the original cost of complainant's properties and to have been made up from the books of the company prior to their destruction. Exhibit 13 contained the item "Paid John Bensley *et al.* in stock 15,000 shares at $7.50 for remainder of property of old company $112,500.00", and upon Ex-

hibit 14 the item "Paid John Bensley *et al.* in stock 15,000 shares at $7.50 for water rights, etc., $112,500." (Rec. pp. 1104, 1105). Defendant introduced in evidence the original minutes of the meeting of the directors of the water company held December 31, 1874, setting forth the claim of Brereton, the chief engineer, that the said 15,000 shares of stock given to the old company (Bensley) were in excess of what was legally due it *"on account of construction"* (Rec. p. 386). There was, furthermore, no proof by complainant that Bensley owned any water rights. There was no proof as to how much of the $112,500.00 was paid Bensley for rights of way, or for construction, or for water rights, or for "etc." There was no proof that any sum that may have been paid to Bensley for water rights was its reasonable cost or value. In the former rate case of *Stanislaus County v. San Joaquin & K. R. C. & I. Co.*, 192 U. S. 201, the above amount claimed to have been paid Bensley was included in what it was claimed the books of account showed had been invested in the cost of the plant, and this Court there decided that such alleged proof by the books was not satisfactory evidence, especially as the books did not show that the amounts alleged to have been paid were reasonable cost or value. Consequently, the Master was fully justified by the state of the proof, the burden of which rested upon complainant, in finding that it had not been shown that complainant, or its predecessors, had paid John Bensley the sum of $112,500.00, or any particular sum of money for any water right (Rec. p. 115).

THE REBATES FROM WATER RATES ALLOWED TO MILLER & LUX BY COMPLAINANT AND ITS PREDECESSORS AND CLAIMED TO AMOUNT TO $188,263.00, WERE NOT ALLOWED IN CONSIDERATION OF ANY WATER RIGHT.

The discriminating water rate contracts calling for such rebates and the proofs showing that Miller & Lux in December, 1877, acquired a majority of the stock and complete control of complainant's predecessor, and as they still have of complainant, are as follows:

On the 18th day of May, 1871, complainant's predecessor, the San Joaquin & Kings River Canal Company, made a contract (Exhibit 6, Rec. p. 1074) with Miller & Lux (then a copartnership, but subsequently, as the record shows, a corporation) (Rec. p. 415) whereby the canal company agreed to construct a canal for 60 miles, and to furnish Miller & Lux water to irrigate 50,000 acres of land, and whereby, under certain conditions, Miller & Lux were to pay the canal company a subsidy of $20,000.00. Miller & Lux also agreed to give and *grant a right of way* for the canal over their lands in Fresno and Merced counties, and they also agreed to pay for irrigation a sum not exceeding $1.25 per acre for each crop, or the prices paid by other parties. On the 7th day of February, 1872, complainant's predecessor and Miller & Lux entered into a contract (Exhibit 7, Rec. p. 1077) by which the above contract (Exhibit 6) *was expressly canceled.* By Exhibit 7, Miller & Lux agreed to pay complainant's predecessor a subsidy towards building the canal of $20,000.00, so that it would irrigate 50,000 acres of their lands. Miller & Lux also *gave and granted* to it a *right of way* over their lands for the canal in the counties of Fresno,

Merced and Stanislaus, and in clause 5 agreed to pay it "for water furnished by it used in irrigating each crop, the regular price paid by others for irrigation, not to exceed $1.25 per acre". No riparian or other water rights were granted by Miller & Lux to the canal company in consideration of any reduced water rates, or upon any considerations by the contracts, Exhibits 6 and 7.

It appears that differences arose between complainant's predecessor and Miller & Lux as to the non-payment by the latter for irrigation under the last above contract, and that complainant's predecessor brought suit against Miller & Lux to recover $70,000.00 on that account. Now, while this suit was pending, and no doubt because of it, Miller & Lux in December, 1877, obtained control of a majority of complainant's stock and of its board of directors (Rec. p. 387). On November 12, 1879, complainant's predecessor entered into a further agreement with Miller & Lux (Exhibit 8, Rec. p. 1082) dismissing said suit, and making the following provisions as to charges against Miller & Lux for water (the Exhibit A referred to being the aforesaid Exhibit 7):

> "Said party of the first part, in consideration of the premises and of the execution and delivery of said deed (right of way) hereby covenants and agrees that subdivision fifth of the contract referred to as Exhibit 'A' in the complaint filed in that certain action now pending in the Judicial Court of the Nineteenth Judicial District of the State of California, in and for the City and County of San Francisco, entitled 'the San Joaquin and Kings River Canal and Irrigation Company v. Henry Miller and Charles Lux,' being the same

> contract hereinbefore referred to and bearing date the seventh day of February, A. D. 1872, shall be construed to mean that this company, the party of the first part herein, will deliver water thereunder at its regular rates not exceeding one dollar and twenty-five cents per acre per crop, provided the crops are cut, but in case the alfalfa lands should be pastured, then each supply of water of the usual quantity supplied to produce a crop shall be deemed to be such a supply as will entitle a charge to be made therefor, the same as if a crop shall be cut, and said subdivision shall likewise apply with the proviso aforesaid, to said Miller & Lux, their tenants, employes, heirs, executors and administrators, and shall run with the land so long as this company exists to the extent of thirty-three thousand, three hundred and thirty-three and one-third (33,333⅓) acres, but shall not apply to the grantees of said Miller & Lux, nor to the grantees of their heirs, executors, or administrators."

Complainant's secretary, Mr. Merritt, testified that this $70,000.00 was, on this settlement, credited to Miller & Lux on their water account with complainant (Rec. p. 380). See also resolution (Rec. p. 380). We see therefore that, under this contract (Exhibit 8) made in 1879, Miller & Lux could use all the water they desired and as often as they pleased to produce one crop a year to the extent of 33,333⅓ acres at rates not exceeding $1.25 per acre. Miller & Lux did not by the contract, Exhibit 8, convey to the canal company any riparian or other water right in consideration of any reduced water rate, or for any consideration, or at all. Complainant agreed with Miller & Lux, by contract (Exhibit 9, Rec. p. 1084), dated December 24, 1897, that the latter need only pay

> "for each crop irrigated, or for water furnished of the usual quantity, supplied to produce a single crop, *one-half of the regular rates per season* of two crops, but not in any case to exceed $1.25 per acre per crop".

Miller & Lux did not by the contract, Exhibit 9, convey to the canal company any riparian or other water right, in consideration of any reduced water rate, or upon any consideration, or at all.

On May 18, 1899, complainant and Miller & Lux entered into a contract (Exhibit 10, Rec. p. 1086) to the effect that Miller & Lux had a right to use the so-called surplus waters of the canal upon their uncultivated grass lands, free of charge. Miller & Lux did not by the contract, Exhibit 10, convey to the canal company any riparian or other water right, in consideration of any reduced water rate, or upon any consideration, or at all.

The next contract (Exhibit 11, Rec. p. 1088), made August 17, 1898, between complainant, the California Pastoral & Agricultural Company and Miller & Lux, recognized and stated that the complainant canal company had the prior right to divert 775 cubic feet of water per second from the San Joaquin River, but by it Miller & Lux neither conveyed nor purported to convey to the canal company any of their riparian, or other, water rights in consideration of any reduced water rate, or for any consideration, or at all.

On the 4th of June, 1911, complainant canal company, Miller & Lux and others entered into a contract (Exhibit 12, Rec. p. 1094) recognizing and confirming the right

of the canal company to divert from the San Joaquin River 1350 cubic feet of water, but by said contract Miller & Lux did not convey nor purport to convey to the canal company any of their riparian or other waters, in consideration of any reduced water rate, or any consideration, or at all.

An examination of the foregoing contracts wholly disproves the claim by counsel that Miller & Lux conveyed to complainant its water rights in consideration of reduced or rebated water rates. The fact is, that complainant took its waters from the river without paying anyone a cent for the right of diverting them, and this appears clearly from the testimony of Merritt, its secretary, who swore *that for fifteen or twenty years the complainant had been taking water from the river, openly, claiming the right to do so, adversely to everybody, and without asking anyone's permission to do so* (Rec. p. 344). The one thing most apparent from these contracts between Miller & Lux and the canal company is that Miller & Lux *have been therein extremely careful not to convey to the canal company* any of its riparian, or other, rights to the waters of the San Joaquin River. The most that any of these contracts do is to recognize the prior or existing right of the canal company to take certain amounts of water from the river, but they fall far short of being grants of any water rights, and most certainly not one of them pretends to grant any water right in consideration of any reduced water rate by the canal company to Miller & Lux. Furthermore, there is no evidence in this record as to what the alleged riparian rights of Miller & Lux ever were,

or are, to the waters of this river. Such riparian rights, if any they have, would be the right to irrigate their lands riparian to the river, with water from the river, and such right is limited to a reasonable use, subject to a like right of reasonable use of the river water on lands owned by others and riparian to the river. A riparian right to water in a stream is a a right appurtenant and attached to some particular parcel of land that borders, and because it borders, upon the stream, and there is absolutely not a word in these contracts conveying or granting to the canal company the riparian rights appurtenant to any land bordering on the San Joaquin River that Miller & Lux may have owned, and there is nothing in the record to show what riparian lands Miller & Lux owned, or whether such lands lie above or below the point of diversion of water from the river by the canal company. In short, this record does not disclose that Miller & Lux have by any contract, or in any manner, agreed that the canal company should have the exclusive right to take from the river any water that Miller & Lux were entitled to have applied to the irrigation *of any of its riparian lands.* The Court will bear in mind that the claim of complainant that it paid Miller & Lux $188,263.00 for water rights is based upon the device of estimating that Miller & Lux have by reason of the water rate rebates allowed them by said contracts saved that amount of money from the year ending June 30, 1887, to year ending June 30, 1903, viz., for sixteen years (Rec. pp. 111, 344, 345). But why should the calculation stop at the year 1903,

for there is absolutely no time limit in the current water rate rebate contracts between complainant and Miller & Lux? So far as these contracts show, the discrimination in favor of Miller & Lux can go on forever, and, this being so, the amount so paid in rate rebates for the water right would go on increasing in course of time to $10,000,000.00. This consideration alone, which is referred to by the Master, shows most conclusively that said discriminating rate contracts were not and could not have been made in consideration of any water right.

In considering this entire question and these contracts by which Miller & Lux were furnished water for cultivated lands at rates less than those charged to others, and at rates less than those fixed by the supervisors and complained of in this suit, it should be borne in mind that, since December 1877, Miller & Lux have had complete control of the capital stock of the complainant canal company and of its board of directors; that Henry Miller and Le Roy J. Nickel are, respectively, president and vice-president of Miller & Lux, *and also of complainant canal company;* that C. Z. Merritt is secretary of both corporations; that a majority of the directors of each corporation appear to be the same persons and to consist of Henry Miller, J. Leroy Nickel and their relatives and friends; that Hammatt is engineer for both concerns, and had charge of making up complainant's bill, Exhibit 27, against his other employer, Miller & Lux, for irrigating its lands (Rec. pp. 410 to 413).

Now, in regard to complainant's claim that the rebates from water rates under these contracts to Miller & Lux and amounting, it is claimed, to $188,-263.00, were made in consideration of grants of water rights to complainant or its predecessors, by Miller & Lux as a riparian owner, or by anyone, we submit that the Master was fully justified in finding that they were not made upon any such consideration, for it is obvious upon examination of the contracts that the rate rebates were not made for any such consideration, for not one of such rebate agreements purports to convey any water right from Miller & Lux; *nor do any of such agreements in any manner provide that such rate rebates are, or shall be, given in consideration of any water right.*

The fact clearly appears from the record that, prior to December, 1877, when it first got complete control of complainant, Miller & Lux were granted rebates in consideration solely of the rights of way which they granted the canal company by contracts, Exhibits 6 and 7, and that the subsequent discriminating contracts in favor of Miller & Lux were made solely because they had acquired a majority of complainant's stock and of its directors. We here call the Court's attention to the fact that the Master and Circuit Court have allowed complainant a valuation of $144,119.00 for its rights of way (Rec. p. 87). After Miller & Lux so in 1877 acquired control of complainant, they operated the canals as though they, and not complainant, owned them, for we have the testimony of Rouse, one of the complainant's superintendents, that Miller & Lux would

take water from the canal whenever they wanted it and without asking for it, as others were required to do (Rec. pp. 649, 650); also that the drainage waters from the canal were delivered to Miller & Lux without payment, although others could not get any water, or drain water unless they paid for it (Rec. pp. 647, 648, 649).

NEITHER COMPLAINANT NOR ANY OF ITS PREDECESSORS EVER PAID $166,666.00, OR ANY SUM, OR CONSIDERATION, TO MILLER & LUX, OR TO ANYONE, ON ACCOUNT OF ANY WATER RIGHT, NOR WAS THE DISCRIMINATION CONTRACT, EXHIBIT 10, AS TO SO-CALLED SURPLUS WATERS, MADE IN CONSIDERATION OF ANY WATER RIGHT.

Counsel's claim as to this matter appears on page 107 of their brief, where they say in effect that complainant having been charged by the Master with $10,000.00 as the value of the so-called surplus water which it delivered to Miller & Lux to irrigate their pasture lands free of charge under the discriminating contract, Exhibit 10 (Rec. p. 1086), that therefore complainant is entitled to have said $10,000.00 capitalized at six per cent, making the value of such surplus waters $166,666.00, and that such value should be credited to complainant as though it had paid it to Miller & Lux for a water right of that value.

All of this is merely an ingenious assumption on the part of counsel, for there is absolutely no evidence in the record to support any such contention. In the first place, there is no agreement and nothing in this record that any surplus water from the canal should be given Miller & Lux in consideration of any water

right. This matter was considered fully by the Master in his report, who found that this so-called waste or surplus water delivered to Miller & Lux free of charge was used by them to irrigate 20,000. acres of their pasture lands, upon which they fed thousands of their cattle; that such waters belonged to the canal company, and that complainant could not give them away free of charge to Miller & Lux, but should be charged as having received 50¢ an acre, amounting to $10,000.00, for their use for the irrigation year. The Master's review of the evidence as to this will be found in his report (Rec. pp. 128 to 136), and fully sustains his findings that such so-called surplus waters were not delivered to Miller & Lux in consideration of any water right, or in consideration of anything other than that Miller & Lux took them because it had complete control of complainant and its directors, and hence could and did take from complainant whatever it wanted. The Master refers to and quotes from the minutes of the canal company of May 7, 1899, giving the report of the committee which was adopted and carried out by the agreement of May 18, 1899 (Exhibit 10, Rec. p. 1086), between the canal company and Miller & Lux as to so-called waste or surplus waters, and which report stated that Miller & Lux had from the beginning

> "tacitly assented to the diversion of water by the canal company, * * * that no written agreement was ever made on the subject, and that Miller & Lux's acquiescence would certainly be held to estop them from denying the right of the company to take water to the extent of the capacity of the canal" (Rec. p. 116).

Counsel refer to paragraph 6 of the contract of February 7, 1872 (Exhibit 7, Rec. p. 1077). This paragraph only provided that, if the canal should diminish the natural overflow of the river and its sloughs which usually occurs between April 1st and June 15th, the canal company would permit an overflow from the canal upon lands of Miller & Lux equal to that of which they had been deprived. But the evidence shows that the so-called surplus waters used to irrigate the 20,000 acres of Miller & Lux grass lands were not the waters referred to in paragraph 6 of said contract, because the testimony shows that Miller & Lux take such so-called surplus waters during the entire irrigating season from April 1st to September 1st, for the purpose of reclaiming alkali lands as well as to irrigate grass lands (Rec. pp. 131 to 134).

Furthermore, it appears from the record that both the canal company and Miller & Lux expressly admitted that the latter should pay for the irrigation of their grass, or pasture lands, with this so-called waste or surplus water. For in 1904 the canal company *fixed the price of irrigating grass lands* at seventy-five cents per acre in Stanislaus County; at fifty cents per acre in Merced County, and at thirty cents per acre in Fresno County, and for that year alone Miller & Lux paid complainant $4,947.38 for irrigating 14,639.8 acres of grass lands (Rec. p. 449). Since then, Miller & Lux have paid complainant nothing for irrigating their grass lands, although the resolution of complainant's directors fixing said rates *has never been rescinded* (Rec. p. 450). How can complainant, in the face of this evidence, be heard

to say that it agreed to give Miller & Lux free irrigation for their grass lands in consideration of any water rights? Again, as to Exhibit 10, which was made while the testimony was being taken in former rate case as to the rates of 1896, the alleged consideration mentioned in that contract moving from Miller & Lux to the canal company had been long theretofore exhausted in contracts (Exhibits 6, 7 and 8), while as to the 350 cu. ft. of water for the outside canal there never was, nor is, a word or thing to show that Miller & Lux owned said 350 cu. ft., or that they ever gave it, or in any manner conveyed it to complainant. The simple fact is that complainant took from the San Joaquin River whatever waters it wished, whether for the main canal or the outside canal, and there is no evidence in this record that Miller & Lux ever owned any of the waters that the complainant has taken from the river. As before stated, Merritt, complainant's secretary, testified in this suit that for the last fifteen or twenty years complainant took its waters from the river, claiming the right to do so adversely to everyone and without asking anyone's permission (Rec. p. 344). But, even assuming that Miller & Lux acquired any right to the so-called waste waters for grass lands free of charge under Exhibit 10, executed on May 18, 1899, yet they wholly abandoned such right when they paid complainant for such waters in 1904, under complainant's resolution fixing the rates therefor, and such resolution has never been rescinded (Rec. pp. 449, 450).

Moreover, complainant alleges in its bill of complaint that it appropriates the waters of the river for sale

(Rec. p. 2), and it is obvious that these waters that are given free to Miller & Lux to irrigate their pasture lands cannot be in any proper sense waste or surplus waters if they can be, as they are, put to a beneficial use. Besides, appellees are charged in this proceeding with the value of the dam in the river and the canals by which those so-called waste or surplus waters are diverted from the river and distributed upon Miller & Lux's pasture lands. The uncontradicted testimony of Wangenheim is that in 1907 those waters were worth at least fifty cents an acre per year (Rec. p. 728), and the Master was fully justified in finding that complainant should be charged with having received that rental from Miller & Lux for the 20,000 acres irrigated.

Counsel's claim that this alleged free water, charged by the Master to complainant at $10,000.00, would, if capitalized at 6%, amount to $166,666.00 as having been paid by the canal company to Miller & Lux for riparian water rights, is a pure and unjustifiable assumption, for contract, Exhibit 10, does not convey any riparian water right from Miller & Lux to the canal company.

It thus appears that complainant's alleged water rights have cost it nothing, and, so far as the record shows, all that complainant and its predecessors ever did was to divert the water from a public stream without paying anyone consideration for the right of such diversion. Consequently, its mere right to divert the water having cost complainant nothing, it does not represent any investment of money or other thing by complainant. Such being the case, complainant is not, we claim,

entitled, in a proceeding to determine the rate it shall charge the public for the use of the water, to have the value of such alleged right of diversion included in the value of its diverting and distributing plant, because the right of diverting the water is in this instance a right to take the water of a public stream, which water no person apparently owned or claimed to own, and the exercise of which right amounted simply to taking the public waters of the State of California without any expense or investment. The right of diverting water from a stream is one thing, and the expense of utilizing such right is another. The expense of utilization has been fully covered in this case by the valuation allowed for the diverting dam, headworks and distributing canals, but to such valuation there should not be added any value for a mere right of diversion which represents no cost or investment. Section 1 of Article XIV of the Constitution of the State of California provides:

> "The use of all water now appropriated, or that may hereafter be appropriated for sale, rental, or distribution, is hereby declared to be a public use, and subject to the regulation and control of the state, in the manner to be prescribed by law."

The State Irrigation Act of 1885 (Appendix) contains the same provision. The word "appropriation" as so used in the State Constitution has been construed by the Supreme Court of the State of California as not referring to the act of taking or the method of acquiring water, but as meaning "devoted to".

Merrill v. Southside I. Co., 112 Cal. 426-433.

Under such construction, the State Constitution provides that the use of all water "devoted to" sale, rental, or distribution, is a public use. In its bill of complaint, complainant alleges that the waters diverted by it from the rivers have been and are furnished by it to the inhabitants of the counties of Fresno, Merced and Stanislaus, "for irrigation, sale, rental and distribution, and consequently all that complainant has done is to take, without cost, the public waters of the state and devote them to the use of the public.

We have said that the waters diverted from the river by complainant and its predecessors were public waters of the State of California, and this is undoubtedly so. It is provided by Section 1410 of the Civil Code of California that "The right to the use of running water flowing in a river or stream or down a canyon or ravine may be acquired by appropriation". Section 1422 of the same title and code provided before its amendment in 1903 (Stats. 1903, p. 397) that "The rights of riparian proprietors are not affected by the provisions of this title ", and such is still the law of the state under the decisions of its Court, notwithstanding that the amendment to said section omitted entirely all of its said provisions.

Sections 1415 to 1422 of the Civil Code provide for certain posting and other acts by a person desiring to appropriate the waters of a stream, but the performance of such acts are not necessary to such appropriation, as has been decided by the Courts of California, which have ruled that the appropriation of water is made and is complete if the water be actually taken from the

stream with the intent to appropriate it for a beneficial use and if it shall be applied to such use.

McDonald v. Bear River etc. Co., 13 Cal. 220, 232;
Watterson v. Saldunbehere, 101 Cal. 107, 112.

It is also the law of California that an appropriator of water obtains a good title to its use by prescription as against the riparian owner by five years open, continuous and adverse use of it. This will doubtless be admitted. The law is clearly stated in *Duckworth v. Watsonville W. Co.*, 150 Cal. 530, 531.

The result is that the waters that a person takes from any stream in California and uses for a beneficial use for five years continuously and adversely to others are public waters of the state which he is entitled to so appropriate and devote to a beneficial use. In the case at bar, complainant has, as against Miller & Lux and all other riparian owners, a prescriptive right to take the waters from the San Joaquin River, and the waters that it takes and has dedicated to public use are the public waters of the state, and it and its predecessors have taken said waters without paying any one for the right to take them. Complainant's main contention is that, the water rights should have been valued in fixing the rates because, it claims, such rights had cost it a considerable amount of money, but the record discloses, as we have seen, that such waters and water rights cost it nothing. We fail to see how complainant can be injured by omitting from the valuation upon which its rates are to be estimated a water right that has cost it nothing and represents no investment by it, for the underlying reason supporting the constitutional

guaranty that the rates shall be reasonable is that the rates shall give a reasonable return *upon the investment*, and not a return upon something that may have cost the complainant nothing and that represents no investment.

We shall hereafter in this brief also contend that, under the laws of California, waters once dedicated to the public use belong to the public and not to the water company, *irrespective of how, or at what cost, acquired;* but, aside of that question, we think the fact that these water rights cost complainant nothing and are public waters of the state, taken, devoted and dedicated by complainant solely for public use, is sufficient of itself to dispose of complainant's claim that they should be valued in this proceeding as part of its plant.

(c) EVEN SHOULD THE ALLEGED VALUE OF THE WATER RIGHT BE ADDED TO THE CIRCUIT COURT'S VALUATION OF COMPLAINANT'S PROPERTIES AND THE COUNTY RATES BE RAISED SO AS TO GIVE A NET ANNUAL INCOME OF SIX PER CENT UPON SUCH INCREASED VALUATION, NEVERTHELESS COMPLAINANT WOULD NOT ACTUALLY RECEIVE NOR BE ENTITLED TO RECEIVE SUCH NET INCOME OF SIX PER CENT, BECAUSE OF ITS AFORESAID DISCRIMINATORY RATE CONTRACTS WITH ITS CONTROLLING STOCKHOLDER, MILLER & LUX, BY WHICH COMPLAINANT'S NET ANNUAL INCOME UNDER THE COUNTY RATES IS DECREASED 25.13 PER CENT. UNDER SUCH STATE OF FACTS APPELLEES INSIST THAT COMPLAINANT HAS NO STANDING IN A COURT OF EQUITY TO COMPLAIN OF THE COUNTY RATES AS BEING INSUFFICIENT TO GIVE IT AN ANNUAL NET INCOME OF SIX PER CENT, FOR THE REASON THAT THE COURT CAN ONLY ENFORCE THE CONSTITUTIONAL AND STATUTORY GUARANTIES INVOKED BY COMPLAIN-

ANT IN SO FAR AS THEY RELATE TO AN ANNUAL NET INCOME THAT IS ACTUALLY IN FACT RECEIVED OR RECEIVABLE UNDER THE PUBLIC RATES COMPLAINED OF. THE CONSTITUTIONAL GUARANTIES SHOULD BE APPLIED ONLY TO INSURE AN ACTUAL NET RETURN, FOR COMPLAINANT CAN ONLY BE INJURED AND HAVE CAUSE OF COMPLAINT BECAUSE OF DEPRIVATION OF ACTUAL MONEY INCOME. UNDER THE FACTS OF THIS CASE THE QUESTION OF THE INSUFFICIENCY OF THE RATES IS PURELY MOOT AND ACADEMIC.

This point should properly precede the argument of all other points, but it is made at this place so as to avoid unnecessary repetition of the review of the discriminatory rate contracts between complainant and Miller & Lux.

The Master and the Circuit Court found that, in considering the sufficiency of the rates attacked by complainant, it should be charged *as though* it had actually received the moneys that the rates if enforced would have returned to complainant, irrespective of the lesser rates and free water allowed by it to its controlling stockholder, Miller & Lux, under the contracts we considered under the foregoing point. In adopting this course, the Master and Circuit Court followed the rule announced in *Wileax v. Con. Water Co.*, 212 U. S. 19, and *Knoxville v. Knoxville Water Co.*, 212 U. S. 11, and other cases where the reduced rates allowed to some customers amounted to a very small part of the entire amount called for by the rates attacked. But the facts of the case at bar clearly put it in a class by itself, because of the large amount of revenue *actually lost* to complainant under its discriminatory rate contracts with Miller & Lux. That this loss amounts to 25.13 per cent of the total income that complainant *should have*

collected, according to the findings of the Master approved by the Circuit Court, appears from the following:

The total acreage of lands irrigated by complainant during the irrigation year under consideration by the trial Court and the irrigated acreage owned by Miller & Lux and by persons other than Miller & Lux respectively were as follows:

Miller & Lux cultivated lands.....	58,952.92 acres
" " " grass pasture lands.....	20,000.00 "
Other consumers' lands.....	34,050.70 "
Total	113,003.62 "

(Rec. pp. 140, 566, 567, 451, 452, 582, 583, 1192 to 1197.)

It thus appears that complainant irrigated for Miller & Lux 69 per cent of the entire amount of land irrigated. For the irrigation of these 113,003.62 acres of land complainant actually collected $107,409.18, of which $51,480.33 was paid by Miller & Lux and $55,928.85 by other consumers (Rec. pp. 626, 1192 to 1197). So that, while the Miller & Lux irrigated lands were 69 per cent of the entire irrigation, yet they actually pay therefor less than one-half of the entire gross revenue actually received by complainant from land irrigated. This is so solely because of the aforesaid discriminatory rate contracts, Exhibits 7 and 8, by which complainant has agreed to irrigate, without limit as to time, the cultivated lands of Miller & Lux at rates less than the county board rates it complains of in this suit, and because of the contract, Exhibit 10, by which complainant has agreed, without limit as to time, to irrigate the grass pasture lands of Miller & Lux free of charge.

These contracts are in force and under them complainant *does not and cannot* collect the revenue that the county board rates would produce.

The Master and Court found that complainant should, for the year in question, be charged as though it had received $136,697.35. This amount was made up of the following:

Collections that complainant reported as actually made,		
Sale of water (including $1,163.97 carriage charge against Miller & Lux),	$108,324.16	
Interest and discount,	163.48	
Rent	751.50	
	$109,239.14	
To this was added by Master and Court the following, because of the discriminatory water rate contracts with Miller & Lux:		
Difference between special rate to Miller & Lux and board rate *re* cultivated lands, under contracts, Exhibits 7 and 8,		$ 4,108.65
Further amount payable by Miller & Lux for irrigation of 14,111.65 acres $14,512.53, less the above water carriage charge of $1,163.97 under contract, Exhibit E,		13,349.56
For irrigation by Miller & Lux of 20,000 acres of pasture land under contract, Exhibit 10,		10,000.00
Total,		$136,697.35

(Rec. pp. 157, 158.)

Of the said total of $136,697.35 that complainant should have collected, the sum of $27,458.21, or 25.13 per cent, was not collected by it from its controlling stockholder, Miller & Lux, because of the said contracts giving them rates lower than the county rates for their cultivated lands and free water for their pasture lands. The evidence fully sustains, as we have before seen, the finding of the Master and Court that those contracts were not made in consideration of the conveyance of any water right by Miller & Lux to complainant, as claimed by counsel. The true considerations for those contracts were, as we have seen, the granted rights of way and for which the Master and the Court have allowed complainant the ample and unattacked valuation of $144,119.00 (Rec. p. 87). Then the clear result of those still continuing contracts is that complainant *thereby donates* to Miller & Lux 25.13 per cent of the annual revenue which it should receive from the sale of the water, and the result is that the total net revenue under the rates *is not actually receivable* by complainant *and it is not entitled to receive them* because it has contracted to allow Miller & Lux to retain 25.13 per cent of the same. Under such a state of facts, we claim that complainant can have no standing in a Court of equity to complain that the county rates are insufficient to give it an annual six per cent net income, for the reason that the only ground for relief that complainant can have, or that the court can properly give, must be in respect to net income that complainant is *actually entitled to receive* under the rates. For it must be obvious that complainant cannot be damaged unless the income *actually receivable* under

the rates is insufficient. But complainant having put it out of its power to receive 25.13 per cent of the income that the rates, if enforced, would yield, cannot claim that the rates are insufficient to give it the income which it claims has been guaranteed it by the constitution and the statute, for such guarantees relate only to the *entire income* yielded by the rates enforced as against all consumers. If complainant can thus donate to its controlling stockholder 25 per cent of the receivable income under the rates, it can with equal propriety donate 99 per cent or even its entire income and still complain of the insufficiency of the rates to give it an adequate income. If complainant is granted the relief it asks in this case, then the result is that, while it would continue to donate 25 per cent of its revenue to Miller & Lux, the rates of all water consumers other than Miller & Lux would be raised for the purpose of giving it a six per cent actual income. The Court will, we think, readily see that the condition presented by this case is anomalous and, so far as we can ascertain, unprecedented. Since the jurisdiction and power of the Court can be invoked only to protect complainant as to the net income *actually receivable by it under the rates complained of*, and as complainant has by its contracts with Miller & Lux, the owner of 80 per cent of its stock, deprived itself of the right to collect from them 25 per cent of the revenue yielded by the rates, we ask a ruling of this Court to the effect that *the actual income* of complainant under the rates complained of is not, by reason of said rebate rate contracts, properly involved in this suit, and that hence complainant is entitled to no relief and that the decree of the Circuit

Court dismissing the bill of complaint should be affirmed. We are not, in this suit, asking the Court to decide any of said discriminatory rate contracts to be invalid, for clearly, this Court would have no power to do so. That is a matter in which the minority stockholders in complainant corporation may possibly be concerned. But since those contracts put it completely out of complainant's power to collect 25 per cent of the income it would otherwise receive under the county rates complained of, we claim that it can have no standing in Court to complain that the county rates are insufficient to give it a net return of six per cent. The case presented by this record is not really one that relates to the enforcement on complainant's behalf of any constitutional or statutory guaranty as to its income under the county board rates complained of, but is one showing only the almost complete absorption and the absolute domination of complainant by its controlling stockholder, Miller & Lux.

(d) BUT IRRESPECTIVE OF WHETHER OR NOT COMPLAINANT PAID ANY SORT OF CONSIDERATION FOR ITS WATERS, OR WATER RIGHTS, AND IRRESPECTIVE AS TO HOW OR IN WHAT MANNER THE SAME MAY HAVE BEEN ACQUIRED, THEY ARE, WITHIN THE MEANING AND INTENT OF SECTION 1, ARTICLE XIV OF THE CONSTITUTION OF CALIFORNIA AND OF THE IRRIGATION ACT OF 1885 (Stats. 1885, p. 95), APPROPRIATED TO PUBLIC USE IF (AS IS ADMITTED IN THE CASE AT BAR) THEY ARE DEVOTED TO DISTRIBUTION AND SALE TO THE PUBLIC, AND BEING SO DEVOTED, OR APPROPRIATED, TO A PUBLIC USE, NEITHER THE WATER NOR THE RIGHT TO ITS USE (WHICH CONSTITUTES THE SO-CALLED WATER RIGHT) CAN, IN A PROCEEDING TO FIX THE WATER RATE TO BE PAID BY THE PUBLIC UNDER SAID PROVISIONS OF THE STATE CONSTITUTION AND IRRIGATION

ACT, BE VALUED, OR INCLUDED IN THE VALUATION OF COMPLAINANT'S PLANT USED AND USEFUL IN THE DIVERSION AND DISTRIBUTION OF SUCH WATER TO THE PUBLIC, FOR WATER RIGHTS ONCE DEDICATED TO THE USE OF THE PUBLIC ARE NOT THE PROPERTY OF THE WATER COMPANY BUT OF THE PUBLIC CONSUMERS, AND WHERE WATER RIGHTS HAVE BEEN DEDICATED TO THE IRRIGATION OF THE LANDS OF THE PUBLIC THEY HAVE BECOME ATTACHED TO THE LANDS AND NOT TO THE WATER SYSTEM OF THE WATER COMPANY.

Counsel for appellant have devoted pages 23 to 111 of their brief in opposition to the above proposition. Counsel have also cited many cases as sustaining their position, but an examination of them will show that in none was the question under consideration either presented or decided.

People v. Stephens, 62 Cal. 209, 233 (1882), was a proceeding instituted on behalf of the People of the State to enjoin a water company from excavating the streets of the Town of Woodland for the purpose of supplying the town and its inhabitants with water. The Court decided that the provisions of Section 19 of Article XI, and of Sections 1 and 2 of Article XIV of the Constitution of 1879 of the State of California, declaring the use of all water heretofore or hereafter appropriated for sale, rental, or distribution to be a public use, and permitting a water company to lay pipes in the streets of a municipality to supply it and its inhabitants with water, and directing that the water rates should be fixed annually by the governing body of the city or town, were self-executing without any action by the legislature, and that is all that the case decided. In that case, no question was presented or

decided as to the right of a water company devoting its waters to public use to have its water right valued in a proceeding to fix its water rates, but the case is authority supporting appellees' claim that, under Section 1 of Article XIV of the said Constitution, waters appropriated by a water company for sale, rental, or distribution to the public, are thereby devoted to the use of the public, subject to the regulation and control of the state. In connection with this case of *People v. Stephens,* where the Court decided that the constitutional provisions as to fixing rates for water supplied to cities and towns were self-executing, we direct attention to the fact that the constitutional provision was not self-executing where water was supplied *outside of cities and towns.* Accordingly to provide for such case, the State Irrigation Act of March 12, 1885, was enacted by the legislature (Appendix).

McCrary v. Beaudry, 67 Cal. 120 (1885), was an application by an inhabitant of a city for a writ of mandate to compel the defendant to furnish petitioner with water, it appearing that defendant had appropriated water for distribution and sale, and that he had acquired and was exercising the right to collect rates for the use of it.

There was in this case no question presented or decided as to the valuation of a water right, but appellees claim the decision to be an authority for the proposition that, where water has been once devoted to public use by a water company, or by any person, the right to its use is ever after solely in the public and not in the water company, or person, who has made such ap-

propriation, or devotion, of the water to the public use, for the Court says (p. 121):

> "Whenever water is appropriated for distribution and sale, the public has a right to use it. That is, each member of the community, by paying the rate fixed for supplying it, has a right to use a reasonable quantity of it, in a reasonable manner. Water appropriated for distribution and sale is *ipso facto* devoted to a public use, which is inconsistent with the right of the person so appropriating it to exercise the same control over it that he might have exercised if he had never so appropriated it." (Italics ours.)

Counsel at page 30 of their brief cite the cases of:

Fresno etc. Irrigation Co. v. Rowell, 80 Cal. 114;

Fresno etc. Irrigation Co. v. Dunbar, 80 Cal. 530;

San Diego Flume Co. v. Chase, 87 Cal. 561;

Clyne v. Water Co., 100 Cal. 310;

Balfour v. Fresno etc. Irrigation Co., 109 Cal. 221,

in which cases the only questions decided were that the landowners had a right to the water and that the irrigating companies had a right to payment for water pursuant to the agreements made in each instance for the supply of a certain amount of water at a certain rate.

As to these five cases, counsel say (p. 31):

> "The practical effect of these decisions was that a water company had a right to contract with an individual as to the amount he should pay in order to entitle him to receive water in the absence of any rate fixed by the public authorities."

Our reply to this is that in not one of these five cases was the question either raised or decided as to whether

or not the water company and irrigator had a right to agree upon a rate in the absence of a rate fixed by any public authority, and in none of said cases was the said Irrigation Statute of March 12, 1885, even referred to. We refer to counsel's comment upon those five cases, not in support of any contention that a water company and an irrigator cannot make a valid contract as to the water rate in the absence of a rate by the public authority, but simply to show that they are entirely immaterial to any issue in this case.

People v. Elk River M. & L. Co., 107 Cal. 221, was a suit by the people of the state on behalf of a water company supplying a town with water, to enjoin the defendant operating a mill on the banks of the stream from polluting the water with sawdust and drainage. The Court refused to grant an injunction on the ground that the defendant as a riparian owner on the stream had acquired such use of it before the water company had acquired any right to the waters; that such use was a reasonable use, and could not be taken away by the water company without compensation, and that Section 1 of Article XIV of the State Constitution making the use of water for sale, rental or distribution a public use, was not intended to take such water away from a riparian owner without compensation. That is all that that case decided, and it has no bearing upon the questions in the case at bar. In the case at bar, complainant is not the riparian owner of any water and does not claim to be.

San Diego Water Co. v. San Diego, 118 Cal. 556, 567, was a rate-fixing case in which the Court in the course

of its opinion stated in effect that, when a water company had devoted its water to public use, "it ceased to own it in the same sense in which a man is said to own his horse or his farm," but that the state is bound to make just compensation to the water company for such devotion by it of its water to public use "by requiring the municipal authorities to fix just and reasonable rates at which the water is to be furnished to and received by the consumers." In this case no question was presented or submitted to the Court as to the right of the water company to have the value of its water right included in the calculation of the rates to be charged, and the Court did not undertake to decide any such question.

Thayer v. Cal. Development Co., 164 Cal. 117, has no application to the case at bar, because it related solely to the right of a person to be supplied with water for irrigation by the defendant, which the Court found (p. 131) *had not dedicated its waters to public use* within the meaning of Article XIV of the State Constitution, but had reserved them for use upon specific lands. This case is but one of the line of cited California decisions (p. 135) holding that, where water has been dedicated to use upon specific lands, such use is a limited private use, and not a public use subject to regulation by the state under the above constitutional provisions. In the case at bar, it is admitted that complainant's waters have been dedicated to the public use and that such use is subject to regulation by state authority.

Wilterding v. Green (Idaho), 45 Pac. Rep. 134, was a proceeding for mandamus to compel a water company to supply plaintiff with water for irrigation. The only question decided by the Court was that the demurrer to the complaint should have been sustained on the ground that the complaint did not allege facts sufficient to show that plaintiff's tender of the water rate was a reasonable tender. What the Court there said as to the Colorado case of *Wheeler v. Irrigating Co.*, 10 Colo. 582, was not necessary to the decision and was mere *dicta*.

Tyndale Palmer v. Southern Cal. Mountain Water Co., Decision No. 418 by the Railroad Commission of California, in no manner involved the question as to whether or not a water company was entitled to have the value of any water right included in the valuation of its plant in a proceeding to fix the rates to be charged the public users of the water. The purport of the decision is that the "appropriation" of water under Sections 1410 to 1422 of the Civil Code of California has reference to the taking or acquiring of the water, while "appropriation" of water under Article XIV of the State Constitution has reference to its devotion or dedication to public use by the person who may have acquired it.

THE FOLLOWING AUTHORITIES SUPPORT THE DECISION OF THE CIRCUIT COURT IN THE CASE AT BAR, TO THE EFFECT THAT COMPLAINANT WATER COMPANY HAVING DEDICATED ITS WATER RIGHTS TO THE USE OF THE PUBLIC HAS FOREVER DEDICATED THEM TO A PUBLIC USE AND IS NOT ENTITLED TO HAVE THEM VALUED AS PART OF ITS PLANT, OR OTHERWISE, IN A PROCEEDING TO FIX THE RATES TO BE CHARGED THE PUBLIC.

San Diego etc. Co. v. National City, 74 Fed. 79;

Leavitt v. Lassen Irrigation Co., 157 Cal. 82;

Lassen Irr. Co. v. Leavitt, 157 Cal. 94;
San Diego Water Co. v. San Diego, 118 Cal. 556, 567;
Boise City I. & L. Co. v. Clark, 131 Fed. 414.

San Diego etc. Co. v. National City, 74 Fed. 79, was a suit by the water company to have adjudged void as unreasonably low and confiscatory under the guaranties of the Constitution of the State of California and the fourteenth amendment to the Constitution of the United States the water rates fixed by the city board of trustees,

> "and that the board of trustees be ordered and required to adopt a new and reasonable rate of charge, *and that it be decreed that complainant corporation is entitled to charge and collect for 'water rights' at reasonable rates as a condition upon which it will furnish water to the inhabitants of the municipality for purposes of irrigation, independent of the rates fixed by the board of trustees for water sold and furnished by the company*" (p. 80). (Italics ours.)

It is thus seen that one of the material issues in the case was the right of the water company to charge and collect *in addition* to the rates a further sum for "water rights." The Circuit Court decided that no charge could be made or collected for the "water rights", and in the course of his opinion Judge Ross said as to that matter:

> "One of the objects of the present suit is to obtain a decree establishing the validity of the claim of the complainant to exact a sum of money, *in addition to an annual charge*, as a condition on which alone the complainant will furnish consumers of water *for irrigation purposes*, other than those to whom it had furnished it for such purposes

prior to December 18, 1912. And the contest that arose between the consumers and the company over this charge *for a so-called 'water right'*, and the refusal of the municipal authorities of National City to allow that charge in respect to acreage property within the city limits, is one of the principal causes of the present suit. *It does not change the assence of the thing for which the complainant demands a sum of money to call it a 'water right', or to say, as it does, that the charge is imposed for the purpose of reimbursing complainant in part for the outlay to which it has been subjected.* It is demanding a sum of money for doing what the constitution and laws of California authorized it to appropriate water within its limits, conferred upon it the great power of eminent domain, and the franchise to distribute and sell the water so appropriated, not only to those needing it for purposes of irrigation, but also to the cities and towns, and their inhabitants, within its flow, for which it was given the right to charge rates to be established by law, and nothing else. *No authority can anywhere be found for any charge for the so-called 'water right.' The state permitted the water in question to be appropriated for distribution and sale for purposes of irrigation, and for dometsic and other beneficial uses, conferring upon the appropriator the great powers mentioned, and compensating it for its outlay by the fixed annual rates. The complainant was not obliged to avail itself of the offer of the state, but, choosing, as it did, to accept the benefits conferred by the constitution and laws of California, it accepted them charged with the corresponding burden. Appropriating, as it did, the water in question for distribution and sale, it thereupon became, according to the express declaration of the constitution, charged with a public use.* 'Whenever', said the Supreme Court of California in *McCrary v. Beaudry*, 67 Cal. 120, 121, 7 Pac. 264, 'water is appropriated for distribution and sale, the public has a right to use it; that is,

each member of the community, by paying the rate fixed for supplying it, has a right to use a reasonable quantity of it in a reasonable manner. Water appropriated for distribution and sale is ipso facto devoted to a public use, which is inconsistent with the right of the person so appropriating it to exercise the same control over it that he might have exercised if he had never so appropriated it.' To the same effect is *People v. Stephens,* 62 Cal. 209; *Price v. Irrigating Co.,* 56 Cal. 431." (Italics ours.)

We claim this decision by Judge Ross to be squarely decisive in support of the proposition contended for by us in the case at bar, viz.: that a water company having under the constitution of California dedicated its water to public use is not entitled to have any value of its alleged water rights included in the valuation of its plant in a proceeding to fix the rates it shall charge the public, for it is evident from this decision that, if a water company cannot require the rate board to allow a charge for a "water right" for the reason that its "water rights" have been dedicated to the public, then neither can it have the right to have the "water right" valued as part of its plant in the proceeding by the board to fix the annual rates, for so to do would be in effect, charging and collecting a sum for a "water right" and doing indirectly what the Court decided it had no right to do.

In regard to this case counsel say at page 32 of their brief that "the company did not claim that it owned certain water rights upon which the rates fixed by law should give it an adequate return", but contended that it should be permitted not only to collect the rates fixed, but also an additional sum for the use of the water.

Counsel is mistaken as to this, for it is evident from the whole case that the water company not only claimed to own the alleged water right, but that it also contended that it was entitled to charge therefor *because it had expended money in acquiring the water right.* That this is so we think clearly appears from that portion of the opinion above quoted, reading as follows:

> "It does not change the essence of the thing for which complainant demands a sum of money to call it a 'water right', *or to say, as it does, that the charge is imposed for the purpose of reimbursing complainant in part for the outlay to which it has been subjected*" (p. 86). (Italics ours.)

We thus see that the Circuit Court in this case squarely decided the very question at issue in the case at bar, viz.: that the water company having dedicated its water to public use could not charge for the water right, or right to use the water, on the ground that it was entitled to reimbursement for its outlay in acquiring the water right.

This case of *San Diego etc. Co. v. National City,* was appealed to this Court, but the question as to the right to charge for a "water right" was not decided, because, as stated in the opinion of Mr. Justice Harlan, a decision of that matter was not necessary to a disposition of the case (174 U. S. 739).

In *Boise City I. & L. Co. v. Clark,* 131 Fed. 414, a water-rate case, the Circuit Court of Appeals affirmed the decision of Judge Ross in *San Diego L. & T. Co. v.*

National City, 74 Fed. 79, holding that the constitution of Idaho was substantially the same as that of California in relation to water dedicated to the public use, and that the right to collect compensation for the use of such water was a franchise that could not be exercised except by authority of or in the manner prescribed by law, and therefore that certain perpetual contracts for furnishing water at less than the rate fixed by public authority were void, and that in a proceeding to determine the reasonableness of the public rates attacked in the suit, the Court should disregard such discriminating rate contracts, and consider the public rates attacked as alone applicable.

In their attack upon the decision of the Circuit Court in the said case of *San Diego etc. Co. v. National City*, 74 Fed. 79, counsel have cited and discussed in their brief (pp. 42 to 54) the following cases:

Lanning v. Osborne, 76 Fed. 319;
S. C. Osborne v. San Diego L. & T. Co., 178 U. S. 22;
San Diego Flume Co. v. Souther, 90 Fed. 164;
San Diego Flume Co. v. Souther, 104 Fed. 707;
Souther v. San Diego F. Co., 112 Fed. 228;
Fresno Canal Co. v. Park, 129 Cal. 437;
Stanislaus W. Co. v. Bachman, 152 Cal. 716;
Imperial Water Co. v. Holabird, 197 Fed. 4,

and counsel apparently argue that the decision of Judge Ross in 74 Fed. 76 was contrary to the views of the Supreme Court of California in *Fresno Canal Co. v.*

Park, 129 Cal. 437, and in the other California cases referred to by them.

On the contrary, we deny most emphatically that the said decision of Judge Ross as to the right to charge for a water right was in any manner involved or decided in any of the above cases in the sense involved in the case at bar. The question presented and decided in those cases was not the right of a water company to charge for a water right in addition to the annual water rate, but was the right of a water company to make a contract rate with an irrigationist, or other consumer, in the absence of a rate by the rate board, or in excess of the rate made by the rate board. It is true that some of the decisions of the Circuit Courts as to that matter were at variance with those of the Supreme Court of California as declared more especially in *Fresno Canal etc. Co. v. Park*, 129 Cal. 437, which held that, until the maximum rates should be fixed by the rate board under the State Irrigation Act of 1885, the water company and water user could contract as to the rates. However, even admitting such variance to have existed between the decisions of the Circuit Court and State Court, yet the real question at issue in those cases, viz.: the right of the water company and water user to contract as to the rate in the absence of a rate by state authority or within the maximum of the public rate is not the question involved in the case at bar, and is in no manner at variance with the decision of Judge Ross in *San Diego etc. Co. v. National City*, 74 Fed. 76. As to the question presented in the case at bar,

THE SUPREME COURT OF THE STATE OF CALIFORNIA HAS DECIDED IN THE CASES OF LEAVITT v. LASSEN, 157 Cal. 82, AND LASSEN IRRIGATION CO. v. LONG, 157 Cal. 94, THAT A WATER COMPANY WHICH HAS APPROPRIATED (DEDICATED) ITS WATERS TO PUBLIC USE CAN HAVE THEREAFTER AS BETWEEN ITSELF AND THE PUBLIC NO PRIVATE RIGHT TO THE WATER, CAN GIVE NO PREFERENTIAL RIGHTS TO THE WATER, AND IS BUT THE PURVEYOR OF THE WATER AND THE INSTRUMENTALITY FOR ITS DISTRIBUTION TO THE PUBLIC.

In *Leavitt v. Lassen Irrigation Co.*, 157 Cal. 82, the plaintiff had been the owner of an irrigation water system which appropriated waters from a river in the State of California for the purpose of sale, rental and distribution to the public. Plaintiff also claimed that, by means of the same canals and ditches, he had made a private appropriation of waters for use upon his individual land. Subsequently, plaintiff sold his water system to defendant, but in selling reserved to himself the prior and perpetual right to take from the system a sufficient quantity of water to irrigate his individual lands, free of charge. The defendant water company refused to allow plaintiff to take water under such reservation. In sustaining defendant's refusal the Court said (p. 85):

> "Treating Leavitt's appropriation as being wholly and entirely for public use he, the owner of the system, was but an *instrumentality* for the distribution of the waters which he gathered to such members of the public as might apply for them and pay to him the legal charge for the service that he rendered. As the *agent of such a public use*, he had no power whatsoever to reserve for himself for his private purposes any part of this water. If he could reserve a part, he could reserve all, and thus, by his *ipse dixit*, *convert a*

> *public use into private ownership*, or, if he could reserve a part for himself, he could with equal authority give away parts of the supply to others, and by this method destroy what the constitution itself has declared *shall forever remain a public use.*" (Italics ours.)

It also appeared that, after the water system had been dedicated to public use, it was at one time owned by one Purser who had contracted with Elledge to give her from the system a prior right to irrigate certain land at one dollar per acre per year annually. Plaintiff as assignee of Elledge sought to enforce this contract against the water company. The Court refused to enforce it, holding it to be an illegal preferential contract and an unlawful attempt to convey a perpetual private water right out of water rights that had been dedicated to public use, the Court saying (p. 88):

> "Waiving all minor objections, had Purser the power so to burden his public trust with this perpetual private right? Purser, it is to be remembered, held all of these waters as an appropriator for sale, rental, and distribution under the constitution of 1879. *He was but the purveyor of this public use*, the agent in the execution of this public trust. If, by any method, however devious, there can be carved out of this public trust such a private right, it must obviously result in the destruction of the public use itself." (Italics ours.)

In *Lassen Irrigation Co. v. Long*, 157 Cal. 94, the Court decided that no one could acquire by contract any permanent preferential right to the use of water that had been dedicated to public use.

We claim, in support of the decision of the Circuit Court in the case at bar, that the Supreme Court of

California has in the case of *Leavitt v. Lassen Irrigation Co., supra,* definitely decided that, after water, or water rights, have once been by a water company appropriated, that is, dedicated, to public use by them for sale, rental and distribution to the public, such dedication to public use deprives the company of any private right or ownership in the waters or water rights, and that, as to them, the company has become and thereafter is but, in the language of the Supreme Court of California, the "purveyor" of the water and "instrumentality" for its distribution to the public, and that, in return for such dedication to public use, the state has given it the franchise or right to charge the public such reasonable rates as the authorized rate boards may fix, or at contract rates not less than the board rates. The learned judge of the Circuit Court fully considered these California cases in his opinion in the case at bar (Rec. p. 220) (191 Fed. 875, 893).

Counsel claim that the Colorado cases of *Wheeler v. Northern Irr. Co.,* 10 Colo. 582, and *Wyatt v. Larimer,* 18 Colo. 298, referred to in the opinion of the judge of the Circuit Court in the case at bar, are not in point, because, they say, that the constitution of the State of Colorado in effect makes a water company a "common carrier" of the public waters of that state, while the constitution of California does not. But, under the decision of the Supreme Court of California in *Leavitt v. Lassen Irrigation Co., supra,* we fail to see any difference between the constitutions of Colorado and California, since in that case the water company in California, after having dedicated its water

to public use, is but the "purveyor" of the waters and the "instrumentality" for distributing them to the public. The only difference between the constitutions of the two states is that in Colorado the constitution by force of its own authoritative declaration makes all the waters in the state public waters, while the constitution of California leaves the question of public ownership to the election of the person or corporation owning the water or water rights, since under Article XIV of the California constitution only those waters are for public use that have been appropriated, that is, dedicated, to public use by offering them for sale, rental or distribution to the public. *But after such dedication to public use in California, there is in fact and in legal effect no difference between the constitutions of the two states.*

Further, in support of his decision, the judge of the Circuit Court in his opinion in case at bar gives the following cogent reasons in support of his ruling that the water right, that is, the right to use the water, once dedicated to the public use, ceases to be the property of the water company and becomes the property of the public, represented by the consumers who alone own the exclusive right to the beneficial uses of the water for irrigation of their lands and domestic purposes (Rec. p. 222):

> "In these cases the theory that the irrigation company is an intermediate agency in the execution of a public trust is necessarily based upon the doctrine that the right to appropriated water is attached to the land. The company cannot at the same time be principal and agent. It cannot own the water or the right to appropriate and sell it,

and at the same time be the agent of the public in appropriating it for a public use. The logical relationship of such a company to its appropriated water is that of agent of the owner of the land in diverting and bringing the water to the land for which it has been appropriated. But it is immaterial whether the company is deemed to be the agent of the public in diverting and carrying the water owned by the public to the consumer who owns the right to its beneficial use, or the agent of the consumer in diverting and carrying the water to his principal for a beneficial use. In either case, while the carrier is entitled to be paid for his services as a carrier a reasonable compensation under such regulations as the law may prescribe, he is not the owner of the water carried or the water right created by its diversion, and he cannot compel the consumer to purchase it, and to pay for its use, either in the way of an annual or other rate upon its supposed value as a property right. One of the methods suggested by the complainant for estimating the value of its alleged water right was upon the basis that the value of the right to have water to irrigate land may be measured by the excess of the value of the land with such a right over that which it possessed without such a right, less the expense incurred by the landowner and the canal company in introducing the irrigating system. By this method the following estimate was obtained: The value of the land without water was $855,312. To bring the land under irrigation, the land-owners had constructed lateral ditches costing $162,000, making a total of $1,017,312 as the investment of the land-owners. The complainant's irrigation works cost $1,042,940.05, making a combined expenditure on the part of the land-owners and complainant of $2,060,252.05. The value of the land with water was estimated at $4,122,210. Deducting from this amount the combined expenditure of $2,060,252.05, and we have as the value of the water upon the land the sum of

$2,061,957.95. This sum divided in half would be $1,030,978.97, which would represent the increased value of the land upon the land-owners' investment, and also the increased value upon the canal owner's investment—that is to say, the sum of $1,030,978.97 for each—and accordingly this sum is claimed by the complainant as the value of its water right. This method of working out a water right for the complainant and fixing its value is plausible, but not sound. It assumes that the irrigation company has obtained a partnership interest in the land irrigated, when none has been secured by contract or provided by law. As well might a railroad company in estimating the value of its property for rate purposes add to the value of its railroad property the valuation for a share or interest in the increased value of the land through which the railroad has been built, and to the owners of which it distributes merchandise as a carrier. This method of valuation of a water right discloses, however, its real basis and character; to be of substance and value it must be attached to the land and be a part and parcel of that interest. What Mr. Justice Henshaw said in the Leavitt case with respect to a private right of service from the carrier is equally applicable to such a water right: 'If by any method, however devious, there can be carved out of this public trust such a private right, it must obviously result in the destruction of the public use itself.' This theory of the relation of the carrier to the water right as an intermediate agent is in accord with the law of beneficial use prevailing in all the western states where the right of appropriation is derived from Act Cong. July 26, 1866, c. 264, 14 Stat. 251, and is there limited to some useful or beneficial purpose. As said by Mr. Justice Field in *Atchison v. Peterson*, 20 Wall. 514 (22 L. Ed. 414): 'The right to water by appropriation is limited in every case in quantity and quality by the uses for which the appropriation is made.' This was said with respect to the use of water for mining purposes, but in the subsequent

case of *Basey v. Gallagher,* 20 Wall. 682, 22 L. Ed. 452, the Court held that the views and rulings made in the case of *Atchison v. Peterson* 'are equally applicable to the use of water on the public lands for the purposes of irrigation.' To the same effect is the desert land act (Act, March 3, 1877, c. 107, 19 Stat. 377) (U. S. Comp. St. 1901, p. 1548), where it is provided that the right to the use of water on desert land 'shall not exceed the amount of water actually appropriated and necessarily used for the purpose of irrigation and reclamation.' The Civil Code of California provides in Section 1411, with respect to water rights acquired by appropriation. The appropriation must be for some useful or beneficial purpose, and when the appropriator or his successor in interest ceases to use it for such a purpose, the right ceases.' Section 8, Act Cong. June 17, 1902, c. 1093, 32 Stat. 390 (U. S. Comp. St. Supp. 1909, p. 600), commonly called the 'Irrigation Act,' provides that: 'The right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis and measure and limit of the right.' The same provision has been incorporated into the laws of most of the western states, not, however, as new legislation, but as the established definition of a water right under the acts of Congress and the constitutional provisions of the states declaring that the use of appropriated water is a public use. The right of diversion is accordingly limited to the beneficial use made by the consumer. *Anderson v. Bassman* (C. C.), 140 Fed. 14; *Wiel on Water Rights in the Western States* (3d Ed.), § 478. The complainant in this case claims to have acquired by prescription against all riparian owners and by appropriation against the world the right to divert from the San Joaquin river the quantity of water which the evidence shows it has diverted into and through its canals for more than five years, to wit, 1,350 cubic feet of water per second. The claim, as stated, is mani-

festly not sufficient to state a right of diversion. It must appear, further, that the complainant is either the owner of land for which the water is being appropriated for a beneficial use, or that the water is being diverted for the purpose of being carried by the complainant to consumers who own land for which the water is being appropriated for a beneficial use, and that the water is being so used. The complainant in this case is not the owner of any land for which the water is being appropriated. *The complainant's right to divert the water of the river is therefore based upon and is measured and limited by the beneficial use of certain consumers for which the water is being appropriated.* But, if the amount required by these consumers for a beneficial use is not 1,350 cubic feet of water per second, then complainant has no right to divert that quantity of water; or, if, for example, these consumers require only 100 cubic feet per second for beneficial use, then that would be the basis and measure and limit of complainant's right to divert water from the river, and not the capacity of complainant's headworks, canals, and ditches used in making such diversion. *The water right must, therefore, be the right of the consumer and attached to his land, and not the right of the complainant attached to its canal system.* It follows that, under the law of this state, it cannot be valued as a property right upon which the complainant is entitled to an income from the water rate to be paid by the consumer. I do not overlook the fact that the right of the carrier to divert water from a running stream has been recognized in this state in some instances as a water right vested in the carrier, and that valuations of such supposed rights have been admitted by the consumers; but the consumers have not admitted that right in this case, and as I do not find it established by law, and the evidence is not sufficient to make it a law growing out of custom, I conclude

that it is not a right that complainant is entitled to have valued as its property right in this case." (Italics ours.)

These reasons given by the learned judge for his decision are, we claim, essentially sound. They are based upon the law and decisions of the State of California, and sustain his ruling that a water right, or right to use water, once dedicated to public use in California, thereafter belongs to the public consumer and not to the water company, which is but the carrier, agent and instrumentality for the distribution of the water to the public.

Again, suppose that the state, or some authorized agency, should condemn this water right for some greater public use, is it not too manifest for argument that the owners of the lands within the district irrigated from these canals would be, and that complainant would not be, entitled to compensation measured by the value of the water right. For the water right, or right to use the water, having become appurtenant to and attached to the lands, the owners of such lands would be the persons damaged by a deprivation of such use. It is true that, in such case, complainant would lose its diverting dam, its distributing works and its water distributing business, for all of which it would be entitled to compensation, but it would not be entitled to be compensated for any alleged loss *of any right to use the water*, which is the so-called water right, for it never had the right to use it, since the exclusive right to use it was in the owners of the lands within the irrigated district. This being so, it necessarily follows

that the owners of the irrigated lands, and not complainant, must be the owners of the water right.

It consequently follows from all of the foregoing, and as decided by the Circuit Court, that such water right, or use of such water, cannot be valued as the property of the water company in a proceeding to fix the rate for the distribution of such water to the public, which alone owns the right to its use. If this be so, as the Circuit Court has decided, irrespective of the cost to the water company in acquiring the right to take such waters for distribution, it must also and with greater force be true that a water right cannot be valued where, as in the case at bar, the water company has taken *without cost* to it the public waters of the state and dedicated them to the use of the public.

Franchise.

(e) COMPLAINANT IS NOT ENTITLED TO HAVE ITS ALLEGED WATER RIGHTS VALUED AS ITS FRANCHISE. COMPLAINANT INTRODUCED NO PROOF AS TO FRANCHISES OR THEIR VALUE. COMPLAINANT'S FRANCHISES COST IT NOTHING.

Complainant's claim in this regard is made in its brief, pages 72 to 79, but it is obvious that, if complainant is not, for the reasons hereinbefore urged, entitled to have its alleged water rights valued as part of its plant, it could not be entitled to have them valued by simply calling them its franchise, or by considering them a part of its franchise, and the Master and the Court so found and held (Rec. p. 106).

Furthermore, the record shows that plaintiff offered no evidence on the trial as to any franchise or as to

the value of any franchise, and the Master so found (Rec. p. 107), and the Court sustained such finding.

But, aside from the foregoing considerations, we contend that franchises of a public service water company that have cost it nothing should not be valued in a proceeding to fix the rates it should charge the consumer. In this suit complainant is a corporation organized under the laws of the State of Nevada, and its franchises from the State of California are the rights accorded it to do business and hold property in California and to charge and collect water rates. Aside from the small amount of money paid by complainant as fees to the Secretary of State of California upon filing in his office a certified copy of its articles of incorporation, complainant's franchises have cost it nothing and represent no investment by it. Now, as the value of the franchises depends entirely upon the profits earned by complainant, and as the profits depend upon the rates to be paid by the consumer, it becomes evident that, if a high rate could be justified on account of the great value of the franchise, then such high rate would in turn increase the value of the franchise itself and justify a still higher charge, and there would in time be no limit to raising the rates. It thus appears, we think, most conclusively, that the complainant's franchises should not be valued in the matter of fixing its rates. In

Willcox v. Consolidated Gas Co., 212 U. S. 19,

this question was considered. It there appeared that several gas companies had consolidated under the laws of the State of New York into the Consolidated Gas

Company; that, in effecting such consolidation, the franchises had been valued at $7,781,000.00, and that shares of stock of the Consolidated Company had been issued upon such valuation and sold to the public. The trial Court in that case had, in addition to allowing said franchise valuation of $7,781,000.00 as of the year 1884, the date of consolidation, also allowed the further franchise valuation of $12,000,000.00 on the theory that the increased business since the consolidation had proportionately increased the value of the franchise considered subsequent to that date. This Court, in the opinion by Mr. Justice Peckham, held (p. 47) that the valuation of the franchises at the time of consolidation in 1884 should be accepted on the ground that

> "The valuation was provided for in the Act, which was followed by the companies, and the agreement regarding it has been always recognized as valid, and the stock has been largely dealt in for more than twenty years past on the basis of the validity of the valuation and of the stock issued by the company."

The Court, however, refused to allow the additional valuation of the franchises claimed to have accrued since the consolidation, for the reason that, prior to the consolidation, the gas rates had not been regulated by the legislature (p. 47):

> "but that immunity for the future was, of course, uncertain; and the moment it ceased, and the legislature reduced the earnings to a reasonable sum, the great value of the franchise would be at once and unfavorably affected, but how much so it is not possible for us to now see. The value would most certainly not increase."

This Court in that case did not intend that its acceptance of the valuation of the franchises had in 1884 should be considered as authority authorizing the valuation of franchises in rate cases generally, because it was solicitous to say further (p. 48):

> "What has been said herein regarding the value of the franchises in this case has been necessarily founded upon *its own peculiar facts and the decision thereon can form no precedent in regard to the valuation of franchises generally where the facts are not similar to those in the case before us.*" (Italics ours.)

Now, in the case at bar there are no "peculiar facts" to justify the valuation of complainant's franchises, and, moreover, there was, as before stated, no evidence introduced on the trial by complainant on the subject of its franchises, or to prove their value. If we correctly understand the decision of this Court in the gas rate case above referred to as to the franchise value claimed to have accrued subsequent to the consolidation, it is that a franchise of a public service corporation such as a gas company, or water company, can have no appreciable value in the proceeding to fix the rate, because the rate is uncertain in that it is subject to legislative regulation. If so, the case at bar is clearly within the ruling of this Court. We submit that the decision of the Circuit Court as to this matter was fully justified.

(f) COMPLAINANT IS NOT ENTITLED TO HAVE ITS ALLEGED WATER RIGHTS VALUED AS INCREASING THE VALUE OF ITS TANGIBLE PROPERTY, OR AS BEING TANGIBLE PROPERTY.

Counsel make this claim on page 79 of their brief, but we do not think it necessary to discuss it at length,

because if, as argued in the foregoing points, complainant is not entitled to have their alleged water rights valued then, it obviously follows that it cannot become entitled by the device of considering them as adding to the value of its tangible properties, or as being tangible property.

(g) A WATER RIGHT AS PROPERTY.

Counsel for appellant at pages 69, 70 and 71 of their brief, cite a number of cases as authority for the proposition that a water right however acquired is property. We do not deny that a water right is property in the sense that it may be the subject of purchase and sale, but our contention, as hereinbefore made, is that a water right once devoted to public use is forever dedicated to such use to such an extent that the public users of the water are in legal effect the owners of the water right.

Going Concern.

(h) COMPLAINANT IS NOT ENTITLED TO HAVE ANY VALUE OF ITS ALLEGED WATER RIGHTS ADDED TO THE VALUE OF ITS PLANT AS A "GOING CONCERN".

Counsel contend for the contrary of this proposition at pages 82, 83 and 84 of their brief. In the first place, if we are right in our contention that complainant is not entitled to include the valuation of its alleged water rights as water rights, it must be clear that it cannot become so entitled simply by calling these alleged water rights a "going concern", or something to be considered a part of its properties as a "going concern".

In the next place, complainant is not entitled to any valuation of *any part* of its properties or of its business as a "going concern", because nowhere in this record did complainant offer or introduce any evidence of any value as to a "going concern".

FINALLY, AS TO THIS POINT, COMPLAINANT HAS A MONOPOLY OF FURNISHING WATER IN THE TERRITORY UNDER THE FLOW OF ITS CANALS, AND HENCE IS NOT ENTITLED TO ANY VALUATION OF "GOING CONCERN" OR "GOOD WILL".

This monopoly appears from the uncontradicted testimony of defendant's witnesses Wangenheim (Rec. pp. 726 to 731), and Henderson (Rec. pp. 760, 818), and the rule is well settled that, where a public service corporation has a monopoly, it will, in the matter of fixing its rates, not be allowed any valuation on account of "going concern" or "good will".

Wilcox v. Con. Gas. Co., 212 U. S. 19;
Contra Costa W. Co. v. Oakland, 159 Cal. 323.

REVIEW OF DECISIONS IN CASE AT BAR.

What counsel say under this heading on pages 84 to 93 of their brief has been hereinbefore replied to by us in what we have said in support of the decision of the Circuit Court.

(1) IN THE WATER RATE CASES REFERRED TO BY COUNSEL AT PAGE 93 OF THEIR BRIEF, NO QUESTION WAS RAISED OR DECIDED AS TO THE RIGHT OF THE WATER COMPANIES TO HAVE THEIR WATER RIGHTS VALUED.

On page 93 of their brief counsel refer to several water rate cases decided by the Circuit Court of the Eighth Judicial Circuit, and in which cases they say

that the Court decided that the water companies were entitled to a return upon their water rights.

In the first place, an examination of the record and decisions in those cases will show that there was no attempt made to value the water rights separately, apart from the real estate constituting the riparian lands and water sheds owned by the companies, and next, that no contest was raised or decided in those cases as to whether or not any water rights should be valued. These cases were referred to by the Judge of the Circuit Court in his opinion in the case at bar, when he said:

> "I do not overlook the fact that the right of the carrier to divert water from a running stream has been recognized in this state in some instances as a water right vested in the carrier, and that valuations of such supposed rights have been admitted by the consumers, but the consumers have not admitted that right in this case, and as I do not find it established by law, and the evidence is not sufficient to make it a law growing out of custom, I conclude that it is not a right that complainant is entitled to have valued as its property right in this case." (Rec. pp. 224, 225.)

(J) THE IRRIGATION ACT OF 1885 DOES NOT CONTEMPLATE OR PROVIDE THAT WATER RIGHTS ARE TO BE CONSIDERED AS PART OF THE CAPITAL OF THE COMPANY ON WHICH IT IS ENTITLED TO A RETURN, AND, IF THE ACT DID SO PROVIDE, IT WOULD BE IN VIOLATION OF ARTICLE XIV OF THE STATE CONSTITUTION DECLARING SUCH WATERS A PUBLIC USE.

Counsel at page 63 of their brief claim that the California Irrigation Act of 1885 (Appendix) *contemplates* that water rights are to be considered as part

of the capital of a public service water company on which it is entitled to a return. In other words, that said Act contemplates that the county board of supervisors shall in fixing the rate include in its valuation of the plant the value of the company's alleged water rights.

In the first place, the said Irrigation Act does not so provide, and we claim that the failure of the Act to so provide is significant authority in support of defendant's contention that such valuations should not be included. Section 1 of the Act follows the language of Article XIV of the State Constitution in providing that

> "*The use of all water* now appropriated, or that may hereafter be appropriated, for irrigation, sale, rental or distribution, *is a public use*, and the right to collect rates, or compensation for the use of such water is a franchise." (Italics ours.)

Section 4 provides that

> "At the hearing of said petition the board of supervisors shall estimate, as near as may be, the value of the canals, ditches, flumes, water-chutes and all other property actually used and *useful to the appropriation and furnishing of such water*, belonging to and possessed by each person, association, company, or corporation whose franchise shall be so regulated and controlled." (Italics ours.)

It will be noted that the rate board is not given authority to value any "water" or "water right" or "right to use water", and, since both the constitution and the Act in question both specifically declare that the use of all water appropriated, that is dedicated to

sale, rental and distribution is a *public* use, it would seem clear that the water itself and the right to use it could not and was not to be valued in the valuation of the "properties used and useful to the appropriation and furnishing of such water," and that such properties can be nothing more, or other, than the dams, canals and other things constituting the diverting and distributing system necessary to a use by the public of the waters and water rights that have been appropriated, that is, dedicated by the water company to the public.

In Section 5 of the Act occurs the language quoted and relied upon by complainant as "contemplating", it is claimed, that the rate board is to include a valuation of the water rights. This language is that

> "But in estimating such net receipts and profits, *the cost of any* extensions, enlargements or other *permanent improvement of such water rights* or water works shall not be included as part of said expenses of management, repairs, and operating of such works, but when accomplished, may and shall be included in the present cost and cash value of such work." (Italics ours.)

The above provision in this section that the cost of any permanent improvement of the water rights should be added to the present cost and value of the plant was clearly intended to mean the cost of any new works of a permanent character that should improve the water right, that is, improve the use of the waters or the instrumentalities for their better or improved use by the public consumers or irrigators, and the provision does not, either expressly or by any proper

implication or construction, authorize the valuation of any water right itself.

Furthermore, if the provision does by any construction authorize the valuation of any water right, it is in violation of Section XIV of the State Constitution declaring the use of such water to be a public use.

II.

Value of Earthwork.

THE COURT AND MASTER DID NOT ERR IN ALLOWING EIGHT CENTS A CUBIC YARD AS THE COST OF THE EARTHWORK IN 1907.

IT WAS NOT ADMITTED THAT IT WOULD COST ALMOST THAT AMOUNT IN 1896, AND THE COST OF LABOR AND MATERIAL WAS NOT IN 1896 ONE-HALF LOWER THAN IN 1907.

THE COURT AND MASTER DID NOT DISREGARD THE REPRODUCTION COST IN 1907, NOR DID THEY SUBSTITUTE THEREFOR THE AVERAGE COST OF REPRODUCTION DURING A SERIES OF YEARS.

Counsel for appellant on pages 111 to 117 of their brief assert the contrary of the above propositions in their attack upon the Master's finding, confirmed by the Court, that the value of the earthwork, that is, of excavating complainant's canals, should be estimated upon the basis of eight cents per cubic yard as the reasonable cost of reproducing the same in 1907. The Master in his report quotes very fully from the testimony of the expert witnesses and found that "a fair allowance, under all the testimony, would be an average estimate of eight cents a cubic yard" (Rec. pp. 64 to 73). The Judge of the Circuit Court also went

into this matter and sustained the Master's finding (Rec. pp. 205, 206).

As stated by both the Master and the Court, the question of the cost of this earthwork amounting to 5,367,768 cubic yards, depended largely upon the methods employed.

According to the report of Goodwin, complainant's expert, made in December, 1906 (Exhibit 1, Rec. p. 930), the cost of reproducing the earthwork, including cost of engineering and superintendence, was estimated at an average of 10.725 cents per cubic yard (Rec. pp. 68, 930), *but without any allowance for depreciation* (Rec. p. 289). In 1896, when complainant's rates were being fixed by the board of supervisors of Stanislaus County, this same engineer Goodwin, on behalf of the county and irrigators, made an examination and report as to the parts of the then canals useful to that county, and such report of 1896 is in evidence in the case at bar (Exhibit A, Rec. pp. 304, 1216 to 1267). In such report for 1896, Goodwin estimated the cost of the earthwork at 6½ cents per cubic yard (Rec. pp. 301, 302), including cost of engineering and superintendence (Rec. p. 304), and counsel is mistaken in saying (Brief p. 111) that said 1896 report of Goodwin did not include engineering and superintendence (Rec. p. 304). Furthermore, according to Goodwin's 1896 report, the depreciation is shown to be about twenty per cent of the then reproduction cost (Rec. pp. 304, 305).

Goodwin testified that his estimate in Exhibit I of the cost of the earthwork in 1907 was based upon doing the work by scrapers (Rec. p. 316).

Complainant also introduced the testimony of Warren, a contractor, who testified that the earthwork would cost 25 cents a cubic yard, but if done by dredgers, about 13 or 14 cents (Rec. p. 640). The estimates of Warren were made from a contractor's standpoint only, for he stated upon cross-examination that they were based upon what a contractor would charge (Rec. p. 642), so that his estimate, thus including the contractor's profit, has no value.

Complainant's engineer Hammatt testified that he had in 1907 and 1908 done excavating for complainant at a cost of from 10 to 15 cents per cubic yard (Rec. p. 554). But Hammatt did not use the cheaper combination excavator and dredger method. Furthermore, he did not himself keep any accounts of the cost of his work, but obtained the figures from others, so that his testimony as to cost is hearsay only (Rec. pp. 925, 926).

On behalf of defendants were introduced in evidence the report and testimony of engineer Henderson (Exhibit R, Rec. pp. 1355, 750, 881), the report and testimony of engineers Sloan and Smith (Exhibit 3, N. E. L., Rec. pp. 1339, 696); the testimony of engineers Southard and Dasher (Rec. pp. 882, 920, 870), and the report and testimony of said Goodwin and other engineers before the supervisors in 1896 (Exhibit N, Rec. pp. 1287 to 1339). The defendants' engineers estimated that the earthwork could be reproduced in 1907 at a cost, including engineering and superintendence, of from 4 to 6 cents a cubic yard if the work was done by using modern excavators and dredgers,

by which large quantities of earth could be excavated far more rapidly and cheaply than by using, as estimated by complainant's engineer Goodwin, the antiquated, obsolete and expensive method of plows and scrapers.

Defendant's civil and hydraulic engineer, Henderson, testified that, with the modern excavating "New Era" grader he had constructed a canal at the actual cost of a little over 4 cents per cubic yard (Rec. pp. 792 to 795); that drainage canals were being constructed near Stockton, California, by the combined excavator and dredger method (Rec. pp. 795, 796); that complainant's canals could be reproduced by the same methods, viz.: by first excavating and building the banks on each side of a core of earth with a modern excavator or grader, and then removing the core with a dredger, and that such work could be done by complainant at an actual cost not exceeding 5 cents per cubic yard (Rec. pp. 793, 796, 798, 68). Henderson did not, as claimed by counsel (Brief p. 113), abandon his method of constructing the canal. Nor is there any testimony or evidence, as intimated by counsel, that the soil through which these canals run are adobe or sand, or of any character not susceptible of being easily excavated and built into a canal by the excavator-dredger process. On the contrary, the testimony of Henderson is that there is nothing in the character of the soil to render it in any sense difficult to dig the canal by machinery, although that in some places it would be necessary to use a scraper (Rec. p. 755).

Defendants' witness Dasher, a mechanical engineer and agent for the New Era and Western Giant graders, testified that such machines are in constant use for digging canals, and that their graders, or elevators could be extended so as to dig large canals (Rec. pp. 870, 871).

Defendants' witness Southard, a civil engineer, testified to building part of a canal in Colusa County, California, with the New Era grader, at a cost of from 3 to 5 cents per cubic yard; that the work had cost him 7½ cents per cubic yard when the grader with an elevator only twenty-two feet long had to be supplemented by horse scrapers (Rec. pp. 883, 920). The witness failed to finish this contract solely because of a difference with the owner about signing a formal contract, and not, as intimated by counsel (Brief p. 114), because he was losing money (Rec. pp. 887, 888). He also testified that canal banks built with excavators or graders should be tamped down by horse scrapers, that he had pursued that method on the Colusa work, and that the entire work after having charged against it everything, including expense of horse scrapers, cost from 3 to 5 cents per cubic yard (Rec. pp. 893, 894). He afterwards testified that said cost did not include certain scraper work made necessary because of the short arm of the excavator he was using, and that, including such additional expense, the cost of the work was about 7½ cents per cubic yard (Rec. p. 920).

A very strong and pertinent bit of evidence, proving in the most convincing manner that Goodwin's estimate

of the cost of the earthwork was entirely too high, is furnished by the fact that at his rate of over 10 cents per cubic yard he estimated the cost in 1907 of the outside canal and outside canal extension to Los Banos Creek at $168,850.42 (Item $82,134.10, Rec. p. 933; Item $86,716.32, Rec. p. 977), while Merritt, complainant's secretary and witness, swore that the same work actually cost but $86,315.56 (Rec. p. 359), Goodwin's estimate being nearly 100 per cent more than the actual cost. Counsel and their witness Goodwin, when confronted with the latter's report and testimony taken in 1896 that he had then estimated the cost of the earthwork, including engineering and superintendence, at 6½ cents per cubic yard, could only give in explanation the answer that labor was cheaper then than in 1907, but, even admitting that such was the case, we must bear in mind *that Goodwin's estimates for all dates is based upon doing the entire work by the expensive method of plows and scrapers*, which necessarily would require the employment of a far greater number of men and horses than would be required should the work, or at least the greater part of it, be done, as it obviously can be, by the up-to-date and less expensive method of excavators and dredgers, or even by excavators and scrapers.

It was not generally admitted, as stated by counsel (Brief p. 4), that the cost of reconstruction in 1907 was approximately double the cost in 1907. We also deny the statement by counsel (Brief p. 6) that defendants admitted that the cost of the earthwork in 1896 would be substantially 7½ cents per cubic yard,

exclusive of 10 per cent for engineering and superintendence. As before shown, defendants contended that the cost in 1896, even when the work was done by the expensive method of plows and scrapers, would not exceed 6½ cents per cubic yard, and this in accordance with Goodwin's 1896 report in which was included, as before shown, ten per cent for engineering and superintendence.

After considering the most minute details of all the testimony and evidence bearing upon this, the Master found and concluded that "the work would now be done with a combination of excavators and scrapers; the excavators to the extent that they could be used would lessen the cost of construction. * * * It seems to me a fair allowance, under all the testimony, would be an average estimate of eight cents a cubic yard." This finding of the Master has been approved by the Circuit Court, and we submit it is fully sustained by the evidence.

III.

Appreciation of Earthwork.

THE COURT AND MASTER DID NOT ERR IN FINDING THAT COMPLAINANT WAS NOT ENTITLED TO HAVE ADDED TO THE VALUATION OF ITS PLANT THE ALLEGED APPRECIATION OF THE EARTHWORK. SUCH FINDING WAS NOT BASED, AS CLAIMED BY COMPLAINANT, UPON THE FACT THAT ITS WITNESS WAS NOT SUFFICIENTLY QUALIFIED TO ESTABLISH APPRECIATION, BUT WAS BASED UPON THE FAILURE OF COMPLAINANT TO PRESENT ANY SATISFACTORY PROOF OF APPRECIATION, AND ALSO UPON THE FACT FOUND THAT THE APPRECIATION, IF ANY, WAS OFFSET BY THE DEPRECIATION.

Complainant claimed that the earthwork of its canal had appreciated in value over its value considered as

earthwork of a newly constructed canal, because the loss of water by seepage would be less in an old canal than in one newly constructed. To prove this, complainant's engineer Hammatt testified that, according to his calculations, the water so saved in complainant's canal would, if complainant had sold it at the regular rates, represent an added value to the earthwork of $125,250.00 (Rec. pp. 543, 550). These calculations made by Hammatt depended entirely for their basis and accuracy upon his knowing and testifying to the satisfaction of the Master and Court as to *the loss of water by seepage from new canals,* in comparison with the loss from old canals; and it is furthermore evident that such comparative seepage loss could only be established by carefully conducted water measurements *both on new and old canals.* The witness Hammatt entirely failed to supply any such proofs in support of his estimate of appreciation. He testified that he had only entered complainant's employ in 1907 (Rec. p. 558); that he had given attention to the amount of loss of water from seepage and evaporation only in a general way; had been unable to get accurate figures on them; that he had experimented himself, *but had been unable to get figures on new canals;* that the best he was able to do was to assume the loss at a quantity (Rec. pp. 543, 544); that, before his employment by complainant in 1907, he had never had occasion to estimate the loss of water by seepage or evaporation in an irrigation canal under the conditions exhibiting the same or similar soil and climate as that obtaining in complainant's canal, and had never before had ex-

perience in making water measurements (Rec. p. 581); that in August, 1907, he had measurements taken over the complainant's system for three weeks, but those for the first two weeks had to be thrown out because of the inexperience of the man taking them; that he got one week's measurements in August, 1907, and measurements for July and August, 1908, as to loss from *seepage and evaporation* (Rec. p. 544); that his measurements of waters running through the waste gates at the time he was estimating loss of waters by seepage from complainant's canal, were not taken on many days, and his alleged results are therefore absolutely unreliable (Rec. pp. 573 to 581).

In order to arrive at the seepage loss, it was of course, necessary for Hammatt to have also taken into account the loss by evaporation, and, as to that, he admitted that he knew nothing of his own knowledge, but assumed such loss at ten to twelve per cent. upon what some one told him (Rec. p. 559).

Now, as the witness admitted that he knew nothing about the loss of water by seepage from new canals, and as his appreciation calculations were based entirely upon the comparative greater loss in a new canal than in an old one, it must be evident that his actual measurements of losses in complainant's old canal only, and without any measurements or definite knowledge on his part as to losses in new canals, could not furnish any satisfactory basis for such calculations, and consequently the Master and the Court found that complainant, upon whom rested the burden of proof, had failed to furnish

any satisfactory proof of such alleged appreciation (Rec. pp. 92, 209, 210).

But, in addition to so finding, both the Master and Court also found that complainant was not entitled to any such appreciation, because the same, if any, was fully offset by the depreciation of the earthwork from the collection of berm and silt in the canal (Rec. pp. 92, 93, 210). That the earthwork had depreciated from silting appears in the most conclusive manner from complainant's maintenance accounts, from which it appears that complainant, from and including 1900 to and including 1908, expended large amounts of money for cleaning out the canal (Rec. pp. 1344 to 1347, 1109). Under the testimony, the Master and the Court were fully justified in finding that nothing should be added to the valuation of the earthwork on account of its alleged appreciation.

Furthermore, the alleged appreciation of the earthwork should not be considered, because in the proceedings, inaugurated by complainant, before the boards of supervisors to fix the rates for 1907, complainant made no claim that any appreciation value should be added to the cost of reproducing the earthwork. It made such claim for the first time in the Circuit Court, and, for the reasons before stated in this brief, complainant cannot now assert any such claim.

Valuation of Structures.

THE MASTER AND COURT DID NOT ERR IN FINDING THAT THE VALUE OF REPRODUCING THE STRUCTURES OF THE CANALS WAS TWENTY-FIVE PER CENT LESS THAN THE VALUATIONS GIVEN BY COMPLAINANT'S WITNESS GOODWIN.

This matter is discussed by counsel at pages 132 to 141 of their brief. Complainant's witness Goodwin, in his estimates of values (Exhibit 1, Rec. p. 930), gave the value of the structures including ten per cent for engineering and superintendence, *but without any deduction* for depreciation, at the sum of $315,515.14. The Master went over the matter very carefully, and found that Goodwin's estimates were twenty-five per cent too high (Rec. pp. 75 to 78). By way of illustration, the Master showed that Goodwin had estimated the cost of reproducing the headworks in 1907 at $54,046.50, while in 1896 he had estimated the then cost of the same structures at $28,988.28, Goodwin's estimate in 1907 being ninety-three per cent higher than in 1896.

To Goodwin's estimate of 1896, the Master added ten per cent for engineering and superintendence, and thirty-three and one-third per cent for increased cost of production between 1896 and 1907, thus bringing the cost in 1907 up to $41,540.87, which was thirty per cent less than Goodwin's estimate of $54,046.50 for 1907 (Rec. p. 76).

The structures on the canal were of wood, so that the chief cost entering into their construction was carpenter labor and lumber. Goodwin testified that

the wages of carpenters on bridge work were no higher in 1907 than 1896 (Rec. p. 317), and the Master found that, while the cost of materials and labor were higher in 1907 than in 1896, yet that such higher prices were abnormal and due to the San Francisco earthquake and fire in April, 1906, and that it would be unjust to the consumer to take such abnormally high cost as a basis of valuation.

The result of the Master's estimate as shown by his illustration of the cost of the headworks, is that, after adding to Goodwin's estimates in 1896, ten per cent for engineering and superintendence, and thirty-three and one-third per cent for increased cost of production, his, Goodwin's, estimates for 1907 were still thirty per cent higher than his estimates for 1896, so the Master was fully justified in finding that the structures were of a value that was twenty-five per cent less than Goodwin's estimate for 1907, viz., of the value of $315,515.14, from which the Master properly deducted thirty per cent or $94,654.54 for depreciation, Hammatt, complainant's engineer, in his estimate (Exhibit 26, Rec. p. 1141) having given the depreciation of the structures at $115,266.09, which was more than thirty per cent of the valuation of the structures given by Goodwin for 1907.

Counsel are mistaken in saying at pages 132 and 133 of their brief that the Master erred as to his figures in regard to the comparative cost of the outside canal in 1898 and 1907. In the first place, the Master's

report will show that, in considering the cost of the structures, he made no reference to the outside canal, or its cost (Rec. pp. 75 to 78). The Master did, however, refer to the outside canal when he was considering the cost of reproducing the earthwork in 1907 (Rec. p. 71). The comparative cost of the outside canal is, however, just as pertinent to the structures as it was to the earthwork, but counsel are mistaken in saying (Brief p. 133) that the Master made any error in regard to the cost of the outside canal in 1898. The cost of the outside canal in 1898 that the Master referred to was the cost of so much of it *as extended to Los Banos Creek,* and not the cost of the added section to Quinto Creek, and this was because Merrill, complainant's secretary, had testified that the cost of the outside canal to Los Banos Creek was $86,315.56 (Rec. p. 359), while Goodwin's estimate for 1907, for the outside canal to Los Banos Creek, was $168,850.42 (Rec. p. 933, item $82,134.10; Rec. p. 977, item $86,716.32). But complainant's case is equally bad if we should take the outside canal down to Quinto Creek. For, according to Merritt, the actual cost of constructing it in 1898 was $149,960.77, while according to Goodwin, the actual cost in 1907 would be $243,678.99 (Rec. p. 933, item $82,134.10; Rec. p. 977, item $86,716.32, item $74,828.57). So that the outside canal to Los Banos Creek, together with its extension to Quinto Creek, would, according to Goodwin, cost 60 per cent more than it actually did in 1896. Such being the grossly high reproduction cost estimates of Goodwin for 1907, the Master and the Court were,

under the evidence, fully justified in deducting twenty-five per cent from them.

In addition to this, Henderson, the expert engineer for defendants, estimated the cost of the structures of the canals, including engineering and superintendence and deducting thirty per cent for depreciation, at $185,-900.38 (Exhibit R, Rec. p. 1355). It is not true, as claimed by counsel, that Henderson did not examine nor report as to the greater part of the canals. By reason of stormy weather, he was unable to include in his examination and report a few parts only of the system, viz., the small Dos Palos Branch canals 1, 2, 3 and 4 in Merced County, and the small Oristimba Branch Canal, the total cost of reproducing which in 1907, according to Goodwin's excessively high estimates, would not exceed $40,159.37, including ten per cent for engineering and superintendence.

We submit that, upon all the evidence as to this matter, the Master and the Circuit Court were fully justified in finding as they did as to the value of the structures of the canals in 1907.

Fences.

THE MASTER AND COURT DID NOT ERR IN REFUSING TO INCLUDE IN THE VALUATION OF COMPLAINANT'S RIGHTS OF WAY THE COST OF FENCING THE SAME.

Counsel present this matter at page 141 of their brief.

It is admitted by counsel (Brief p. 141) that the fences were not constructed by complainant, and the testimony

of Pfitzer, a witness for defendants, is that the fences along the canals were built by the farmers owning the lands through which the canals run (Rec. pp. 669, 688). The Master found that the cost of reproducing complainant's canals should be confined to the cost of reproducing what the complainant actually owned, and not to what it did not own, and further that it does not appear that the complainant maintains or pays any portion of the maintenance of the fences that the farmers built, or that complainant has any interest in them (Rec. pp. 86, 87). We think that the reasons given by the Master for his finding are sound and a complete answer to counsels' theory that, if the rights of way should be condemned, the cost of fencing would be included. It seems clear to us that the evidence must necessarily be confined to the cost of reproducing the properties *as they actually exist* at the time the rates are fixed. This is what the word "reproduction" means and can only mean in this connection.

Furthermore, for the reasons hereinbefore stated by us, complainant is not entitled to have the alleged value of fences included, because it did not refer to fences nor their value when the value of its plant was being considered by the boards of supervisors in the matter of fixing the water rates complained of, and no such claim was made until this suit was brought.

VI.

Complainant's Receipts From Water.

THE MASTER AND COURT WERE FULLY JUSTIFIED UNDER THE EVIDENCE IN FINDING THAT COMPLAINANT SHOULD BE CHARGED WITH HAVING RECEIVED FROM MILLER & LUX $14,513.53 FOR IRRIGATING CERTAIN OF THEIR NON-RIPARIAN CULTIVATED LANDS, AND FOR WHICH COMPLAINANT HAD ONLY CHARGED MILLER & LUX A WATER CARRIAGE OF $1163.97 UNDER THE DISCRIMINATING CONTRACT, EXHIBIT E, AND, AS TO THIS, THE MASTER FINDS THAT COMPLAINANT, FOR THE PURPOSE OF DISCRIMINATING FOR BENEFIT OF MILLER & LUX, UNLAWFULLY PERVERTED THE CONTRACT, EXHIBIT E, AND HAS NOT COME INTO THIS COURT OF EQUITY WITH CLEAN HANDS.

This matter is referred to at page 9 of counsel's brief.

On the trial before the Master, complainant claimed that Miller & Lux should not be required to pay it the regular county rates amounting to $14,513.53 for the irrigation of 14,111.65 acres of their non-riparian cultivated lands, but only a carriage charge of $1163.97. Complainant made this claim on the pretense that there was not for the year 1907-8 sufficient of the 760 cu. ft. of water, allowed it by the decision in the Stevenson case for non-riparian lands, to irrigate said 14,111.65 acres of Miller & Lux non-riparian lands, and that therefore it had been compelled to irrigate such lands with the waters belonging to Miller & Lux and for which a carriage charge could only be made by it against Miller & Lux. The Master made a most exhaustive examination of this matter, as will appear from this report (Rec. pp. 137 to 150), and shows most conclusively from the evidence that complainant's claim as to this matter was *absolutely unfounded and false;* that

the said 14,111.65 non-riparian acres of Miller & Lux could have been irrigated from the 760 cu. ft. of water belonging to complainant for irrigating non-riparian lands; that Mr. Henry Miller, being president of both complainant and Miller & Lux, *good faith was required in the dealings between the parties, and that complainant had not, in the matter, acted in good faith and had not come into a court of equity with clean hands.* The Master gives his conclusions as to this matter in the following language:

> "Referring to the contract (Exhibit E, Rec. p. 1260), which, as shown, provides only for the carriage of water for riparian land, it is clear that such contract was made solely because of the belief that the decision in the Stevenson case aforesaid limited the canal company to a total intake of 760 feet, and that with such intake the canal company would not be able to irrigate, in addition to the non-riparian lands of its customers, all the riparian lands of Miller & Lux and of the Las Animas & San Joaquin Land Company which had theretofore been irrigated by the canal company. It developed afterwards that the canal company's rights to take water for such riparian lands was not determined in that case, and the necessity for the company to carry water for the said companies to irrigate said riparian lands did not arise, and none was carried. In like manner, if the canal company has sufficient water to irrigate said 14,111 acres of non-riparian land, the necessity for it to carry water for Miller & Lux in order to enable them to continue to irrigate the same does not arise.
>
> "It appears that Mr. Henry Miller is president of complainant, and that he and the interests he represents control both the canal company and the corporation of Miller & Lux. *Under those circumstances the dealings of the canal company with Miller & Lux must be in the utmost good faith,*

and it must come into a court of equity with clean hands. It is not contemplated by the contract (Exhibit E) that the water should be carried at a carriage charge for lands that the company had theretofore irrigated and which it was still able to irrigate. *It is a perversion of the objects of this contract* (which, had the situation been as supposed, was a beneficial arrangement for the canal company) *to apply the same to the carriage for water to lands which the canal company is able to irrigate, and thus deprive it of a revenue of over $12,000.00.''* (Rec. pp. 148, 149.) (Italics ours.)

As to this matter, counsel apparently confess error. They claimed in their brief (p. 58) in the Circuit Court that complainant's attempt to charge Miller & Lux with a carrying charge only for this water was the result of *a mistake.* This *little mistake,* after deducting from the $14,513.53 (that should have been charged Miller & Lux) the $1,163.97 carriage charge, amounted to $13,349.56. Counsel have not pointed out anything in the evidence showing this to have been a mistake. On the contrary, the evidence and all the circumstances in the record show **that it was a deliberate attempt by complainant to illegally benefit its controlling stockholder, Miller & Lux, to the detriment of all the other irrigators to the extent of $13,349.56, and to have it appear on the trial of this case that the receipts under the water rates complained of were unreasonably low and insufficient.**

That this was not the result of any mistake most conclusively appears from the fact that *after* the entire illegal scheme had been exposed by defendants on hearing before the Master (Defendants' Brief before Master, pp. 49 to 56), nevertheless complainant in its reply brief before the Master entitled "Memorandum in Re-

ply to Defendants' Brief", at pages 20 and 21, persisted in insisting on the "carriage charge" only under Exhibit E.

THE MASTER HAVING FOUND THAT COMPLAINANT HAS NOT COME INTO COURT WITH CLEAN HANDS, AND HIS FINDINGS BEING FULLY SUPPORTED BY THE EVIDENCE, DEFENDANTS ARE ENTITLED TO A DISMISSAL OF THE BILL OF COMPLAINT ON THAT GROUND, ASIDE FROM THE GROUND THAT COMPLAINANT HAS WHOLLY FAILED TO ESTABLISH ITS CASE THAT THE RATES ARE UNREASONABLY LOW.

Clark v. White, 12 Peters 178;
Galloway v. Finley, id. 297;
Wheeler v. Sage, 1 Wall. 518;
Kitchen v. Rayburn, 19 Wall. 518;
Manhattan etc. v. Wood, 108 U. S. 218;
Roberts v. Northern Pac. R., 158 U. S. 13;
New York v. Pine, 185 U. S. 103;
Creath v. Sims, 5 How. 192.

VII.

Complainant to be Charged With Public Rates for Water Supplied Miller & Lux Under Discriminating Rate Contracts.

THE MASTER AND COURT DID NOT ERR IN CHARGING COMPLAINANT WITH THE FULL WATER RATES FOR WATER FURNISHED TO MILLER & LUX UNDER ITS SPECIAL DISCRIMINATING CONTRACTS WITH MILLER & LUX AGREEING TO FURNISH THEM WATER AT LESS THAN REGULAR RATES. SUCH SPECIAL DISCRIMINATING CONTRACTS WERE NOT MADE IN CONSIDERATION OF ANY WATER RIGHTS FROM MILLER & LUX TO COMPLAINANT OR ITS PREDECESSORS.

Counsel argue this matter in their brief at page 8 and also at pages 142 to 147. They admit (Brief p.

142) that, if a water company makes a contract with a consumer to furnish water at less than the rate established by public authority, it should, in a proceeding attacking the rate as unreasonably low, be held by the Court to have actually received the public rate and not the lesser special contract rate, and such rule is firmly established by the authorities.

Wilcox v. Con. Gas Co., 212 U. S. 19;
Knoxville v. Knoxville W. Co., 212 U. S. 1;
Boise City I. & L. Co. v. Clark, 131 Fed. 415;
San Diego v. National City, 74 Fed. 79;
Contra Costa W. Co. v. Oakland, 159 Cal. 323.

But counsel say further that this rule does not apply in this case, because, they claim, that the discriminating water rate contracts of complainant and its predecessors were made with Miller & Lux in consideration of water rights which, they claim, Miller & Lux granted to complainant's predecessors, and that therefore complainant should not be charged as having received from Miller & Lux the full supervisors' water rates complained of in this suit.

We have hereinbefore in this brief fully considered and replied to complainant's claim that these discriminating rate contracts were made in consideration of water rights, and we refer to our argument there made in support of the finding of the Master and Circuit Court that said discriminating rate contracts *were not made in consideration of any water rights from Miller.* Under the authorities above cited, complainant was properly charged by the Master and Court as having received from Miller & Lux the full supervisors' rates attacked in this suit.

VIII.

Maintenance.

THE MASTER AND COURT DID NOT ERR IN ALLOWING THE AVERAGE MAINTENANCE FOR CANAL CLEANING AND FOR LEGAL EXPENSES.

Counsel contend for the contrary of the above proposition at page 8 and pages 146 and 147 of their brief. The Master went thoroughly into this matter of maintenance (Rec. pp. 117 to 129). Complainant's annual maintenance accounts disclosed especially as to canal cleaning and litigation that the expenses were not uniform, but varied greatly in amount from year to year. The Master calls attention to the Irrigation Act of 1885 (Appendix), which does not provide that the water rates shall be established anew each year, but that, when established, they shall be in force for at least a year and until again fixed upon petition of the water company, or of the consumers. The Act also provides that, in fixing the rates, the board of supervisors "*shall estimate the annual reasonable expense*" of the water company. This can only mean, as the Master says, the "usual yearly expense, and not the expenses for the particular year in which the rates are fixed, except as the expense for such year enables them to ascertain such annual expense" (Rec. pp. 117, 118).

In regard to the expense of canal cleaning, it varied from 1900 to 1908, inclusive, from $277.15 to $13,747.14, and, accordingly, the Master and Court allowed the annual average of $6,074.23 (Rec. p. 126), which we submit was a reasonable and proper allowance under the evidence.

As to expense of litigation, the same method of average was properly pursued by the Master and Court in allowing an annual average of $11,721.31 for such expense, which for the eight years from 1901 to 1908, inclusive, ran from $1609.25 to $21,144.90 a year (Rec. p. 127). This allowance was especially generous when it appeared that in most of the suits the complainant was not even a party, but was charged with one-half of the expenses (Rec. pp. 493, 494, 495, 537, 1259, 1343 to 1350, 1109). Miller & Lux had charge of complainant's litigation (Rec. pp. 361, 497). It further appears that most of the litigation has been disposed of (Exhibit P, Rec. p. 1347), and that the disposition of the case of *Turner v. Eastside C. & I. Co.* will determine all controversies with Stevenson and the Eastside C. & I. Co. (Rec. p. 494). So that the annual allowance of $11,721.31 by the Court and Master was most liberal under the evidence.

Salaries.

COMPLAINANT IS NOT ENTITLED TO HAVE $4860.00 ON ACCOUNT OF SALARIES ADDED TO ITS ANNUAL MAINTENANCE ACCOUNT FOUND BY THE MASTER AND COURT.

Upon pages 11 and 12 of their brief, counsel *for the first time at any stage of this suit* claim that this Court should add to complainant's annual maintenance account as found and fixed by the Master and Court at $67,114.84 (Rec. p. 128), the further sum of $4860.00, and which sum they claim should be added as an increase in the salaries of its officers. The only ground urged by counsel for such increase is that such officers were, prior to the year 1878, when Miller & Lux first

obtained control of complainant canal company, receiving salaries exceeding the salaries ever since paid its officers, in amounts aggregating $4860.00.

Complainant is not entitled to have this Court so increase its salary account, for the following reasons:

First: Because in complainant's own statement of annual maintenance it claimed that it should be allowed for salaries the sum of $6929.49 (Exhibit 16, Rec. pp. 1109-1110), and the Master and Court accepted and acquiesced in complainant's claim in that regard and allowed complainant for annual salaries the exact amount, viz., $6929.49, claimed by it (Rec. pp. 128, 215).

Second: Because complainant accepted and acquiesced in the said finding of the Master, and did not except thereto, for the very obvious reason that the Master had allowed it on this account the full amount it had claimed (Rec. pp. 171-176).

Third: Because complainant has not in any of its assignments of error herein, assigned as error the failure of the Court to allow it any greater sum on this account than it had asked for on the trial.

Fourth: Because there is no evidence, or proof, that the amount allowed by the Master and Court on account of salaries is not a reasonable allowance. The evidence shows, as we have before seen, that the officers, viz., the president, vice-president, secretary and engineer of complainant corporation, are also respectively the president, vice-president, secretary and engineer of Miller & Lux; that Miller & Lux own eighty per cent of complainant's capital stock and have control of its

board of directors; that complainant's said officials are also paid salaries by Miller & Lux (Rec. pp. 360 to 364, 519), but there is no satisfactory proof in this record that the amount of $6929.49, asked for by complainant on the trial of this case in the Circuit Court and allowed by the Court for salaries, is not a reasonable amount. The only testimony about the matter was that of complainant's secretary, Merritt, who said that he did not know how the time of their officials was divided between the two companies (Rec. pp. 361-362).

IX.

Rates in Stanislaus County.

THE RATES IN STANISLAUS COUNTY SHOULD BE LOWER THAN THOSE IN MERCED COUNTY, BECAUSE THE GREATER PART OF THE CANALS ARE IN THE LATTER COUNTY AND A LARGE PART OF THEM ARE NOT USEFUL TO STANISLAUS COUNTY.

The Supervisors rate for Merced County for 1907 was $1.65 per acre, while that for Stanislaus County was $1.50 an acre. This discrepancy counsel claim at page 3 of their brief to be unjustifiable because, they say, that the loss of water by seepage and evaporation is 33 per cent to Merced County and 53 per cent to Stanislaus, and that it costs more to deliver water (considered as freight) to Stanislaus County than to Merced County.

In the first place, the loss of water from seepage and evaporation is not 53 per cent to Stanislaus County. The Master considered carefully this question under

the evidence, and found that the loss for the entire canals did not exceed 33.87 per cent (Rec. p. 148), and as the canal, which is about 75 miles in length, only runs for about 4 miles only in Stanislaus County, it is evident that the loss from seepage and evaporation down to the Stanislaus County line cannot exceed 33.87 to any appreciable extent.

A sufficient reply to counsel's contention is that the differences in the county rates is wholly immaterial in this suit, for the question is: are the rates sufficiently *as a whole* to give complainant a reasonable return? This is so, for when the question of the sufficiency of the Stanislaus County rate of 1896 was before this Court in the former rate case (192 U. S. 201), the Court said that,

> "if the other counties should fix rates in such manner that, *taken as a whole*, the rates in the three counties would not insure an income of at least 6 per cent, as provided in the Act of 1885, the company would, of course, not be bound to accept such rates." (Italics ours.)

But, if the Court desires to go into the question, it is readily demonstrable from the record that the rate in Stanislaus County should be considerably less than the rate in Merced County, since by far the greater portion of complainant's system is in Merced County and not in Stanislaus County, and because a great part of the system both in Fresno and Merced Counties is not used nor useful to conveying water to Stanislaus County for irrigation. It is evident and is admitted by complainant (Rec. p. 1319) that the Outside and Dos Palos Canal systems lying entirely in Fresno and

Merced Counties are not useful to Stanislaus County, and, if so, neither are the small so-called outlet canals connecting the outside canal with the western parallel of the main canal. The Dos Palos Main and Branch canals are lateral distributing canals, irrigating lands in Fresno and Merced Counties only, and cannot by any possibility be useful to Stanislaus County.

While the reproduction cost of complainant's plant as given by its expert witness Goodwin in Exhibit 1 has been found by the Master and Court as being too high, nevertheless, subject to such finding of the Court, the said Exhibit 1 may be referred to as illustrating the comparative values of the parts of the system useful in each of the three counties. The following are the alleged reproduction costs of the system as set forth in Exhibit 1:

Fresno County Headworks (Rec. p. 930)....$ 84,732.23
" " Dos Palos, Outside and Outlet canals $156,531.74
" " other canals $156,415.64

Merced County (Rec. p. 977)
Dos Palos, Outside and Outlet canals.....$249,110.16
Other canals and properties.....$275,065.44

Stanislaus County (Rec. p. 1059)
All works .. ..$ 40,363.92
No part of the Dos Palos, Outside or Outlet canals are in Stanislaus County.

The total of the above alleged cost of the entire system according to Exhibit 1 is $962,219.13, and the total of the Dos Palos, Outside and Outlet canals, no part

of any of which is in Stanislaus County, is $405,641.90, or 42 per cent of the entire system, thus leaving but 58 per cent of the entire system useful to Stanislaus County. Extending the calculation to the other two counties, we have the following percentages of usefulness of the entire system in each of the three counties, upon the basis that the works in Merced and Stanislaus are not useful to Fresno, that those in Stanislaus are not useful to Merced, that all in Fresno and Merced are useful to Merced, that all in Fresno are useful to Fresno, and that all in all the counties are useful to Stanislaus except the 42 per cent above stated, we have the following percentages of the usefulness of the entire system in the three counties:

In Fresno County.....41 per cent
" Merced " .....96 " "
" Stanislaus " .....58 " "

So it is evident that the rate in Merced County should be higher than that in Stanislaus County.

X.

Valuations by the Rate Fixing Boards.

THE BOARDS OF SUPERVISORS IN FIXING THE WATER RATES FOR 1907 DID NOT FIND THE TOTAL VALUE OF COMPLAINANT'S ENTIRE SYSTEM TO BE $1,201,706.32, NOR THE COST OF OPERATING THE ENTIRE SYSTEM $93,750.00. THE FINDINGS OF EACH BOARD WERE MADE WITH REFERENCE ONLY TO THAT PART OF THE SYSTEM THAT WAS TO BE USEFUL TO ITS PARTICULAR COUNTY.

At page 3 of their brief counsel state the valuations and annual expenses found respectively by the board

of supervisors of the three counties. Counsel then add up the same and give the sum of $1,201,706.32 *as the total valuation* in the three counties, of complainant's system in 1907. This is incorrect and misleading. These valuations should not be added together, for the valuation by each board was not made as the valuation of that part of the system *that was* in each county, but was the valuation by each board of that part of the *entire system that was useful* to each county, and hence it is apparent that the valuations overlapped and that the sum of them would exceed the value of the entire system. The same is true as to the annual expense found by each board. Such should not be added together, as counsel has done, to make it appear that the annual expense of maintaining the entire system was $93,750.00, since the annual expense found by each board was not as to that part of the system actually situated in the county, but of that portion of the entire system useful to each county.

In conclusion, we ask that the decree of the Circuit Court dismissing complainant's bill of complaint be affirmed by this Court.

Respectfully submitted,

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L. J. MADDUX,
PARKER S. MADDUX,
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APPENDIX.

CALIFORNIA IRRIGATION ACT, MARCH 12, 1885.

An Act to regulate and control the sale, rental, and distribution of appropriated water in this state, other than in any city, city and county, or town therein, and to secure the rights of way for the conveyance of such water to the places of use.

The People of the State of California, represented in Senate and Assembly, do enact as follows:

Section 1. The use of all water now appropriated, or that may hereafter be appropriated, for irrigation, sale, rental, or distribution, is a public use, and the right to collect rates or compensation for use of such water is a franchise, and except when so furnished to any city, city and county, or town, or the inhabitants thereof, shall be regulated and controlled in the counties of this state by the several boards of supervisors thereof, in the manner prescribed in this Act.

Sec. 2. The several boards of supervisors of this state, on petition and notice as provided in section three of this Act, are hereby authorized and required to fix and regulate the maximum rates at which any person, company, association, or corporation, having or to have appropriated water for sale, rental, or distribution, in each of such counties, may and shall sell, rent, or distribute the same.

Sec. 3. Whenever a petition of not less than twenty-five inhabitants, who are taxpayers of any county of

this state, shall, in writing, petition the board of supervisors thereof, to be filed with the clerk of said board, to regulate and control the rates and compensation to be collected by any person, company, association, or corporation, for the sale, rental, or distribution of any appropriated water, to any of the inhabitants of such county, and shall in such petition specify the persons, companies, associations, or corporations, or any one or more of them, whose water rates are therein petitioned to be regulated or controlled, the clerk of such board shall immediately cause such petition, together with a notice of the time and place of hearing thereof, to be published in one or more newspapers published in such county; and if no newspaper be published therein, then shall cause copies of such petition and notice to be posted in not less than three public places in such counties, and such publication and notice shall be for not less than four weeks next before the hearing of said petition by said board; such notice to be attached to said petition shall specify a day of the next regular term of the session of the said board, not less than thirty days after the first publication or posting thereof, for the hearing of said petition, which shall impart notice to all such persons, companies, associations, and corporations, mentioned in such petition, and all persons interested in the matters of such petition and notice. Such Board may also cause citations to issue to any person or persons within such county, to attend and give evidence at the hearing of such petition, and may compel such attendance by attachment.

Sec. 4. At the hearing of said petition the Board of Supervisors shall estimate, as near as may be, the value of the canals, ditches, flumes, water chutes, and all other property actually used and useful to the appropriation and furnishing of such water, belonging to and possessed by each person, association, company, or corporation, whose franchise shall be so regulated and controlled; and shall in like manner estimate as to each of such persons, companies, associations, and corporations, their annual reasonable expenses, including the cost of repairs, management, and operating such works; and, for the purpose of such ascertainment, may require the attendance of persons to give evidence, and the production of papers, books, and accounts, and may compel the attendance of such persons, and the production of papers, books, and accounts, by attachments, if within their respective counties.

Sec. 5. In the regulation and control of such water rates for each of such persons, companies, associations, and corporations, such Board of Supervisors may establish different rates at which water may and shall be sold, rented or distributed, as the case may be; and may also establish different rates and compensation for such water so to be furnished for the several different uses, such as mining, irrigating, mechanical, manufacturing, and domestic, for which such water shall be supplied to such inhabitants, but such rates as to each class shall be equal and uniform. Said Boards of Supervisors, in fixing such rates, shall, as near as may be, so adjust them that the net annual receipts and profits thereof to the said persons, com-

panies, associations, and corporations so furnishing such water to such inhabitants shall be not less than six nor more than eighteen per cent upon the said value of the canals, ditches, flumes, chutes, and all other property actually used and useful to the appropriation and furnishing of such water of each of such persons, companies, associations, and corporations; but in estimating such net receipts and profits, the cost of any extensions, enlargements, or other permanent improvements of such water rights or waterworks shall not be included as part of the said expenses of management, repairs, and operating of such works, but when accomplished may and shall be included in the present cost and cash value of such work. In fixing said rates, within the limits aforesaid, at which water shall be so furnished as to each of such persons, companies, associations, and corporations, each of said Board of Supervisors may likewise take into estimation any and all other facts, circumstances, and conditions pertinent thereto, to the end and purpose that said rates shall be equal, reasonable, and just, both to such persons, companies, associations, and corporations, and to said inhabitants. The said rates, when so fixed by such Board, shall be binding and conclusive for not less than one year next after their establishment, and until established anew or abrogated by such Board of Supervisors, as hereinafter provided. And until such rates shall be so established, or after they shall have been abrogated by such Board of Supervisors, as in this Act provided, the actual rates established and collected by each of the persons, companies, associations, and corporations, and now furnishing, or that shall

hereafter furnish, appropriated waters for sale, rental, or distribution to the inhabitants of any of the counties of this State, shall be deemed and accepted as the legally established rates thereof.

Sec. 6. At any time after the establishment of such water rates by any Board of Supervisors of this State, the same may be established anew, or abrogated in whole or in part by such Board, to take effect not less than one year next after such first establishment, but subject to said limitation of one year, to take effect immediately in the following manner: Upon the written petition of inhabitants as hereinbefore provided, or upon the written petition of any of the persons, companies, associations, or corporations, the rates and compensations of whose appropriated waters have already been fixed and regulated, and are still subject to such regulation by any Board of Supervisors of this State, as in this Act provided; and upon the like publication or posting of such petition and notice, and for the like period of time as hereinbefore provided, such Board of Supervisors shall proceed anew, in the manner hereinbefore provided, to fix and establish the water rates for such person, company, association, or corporation, or any number of them, in the same manner as if such rates had not been previously established, and may, upon the petition of such inhabitants, but not otherwise, abrogate any and all existing rates theretofore established by such Board. All water rates, when fixed and established as herein provided, shall be in force and effect until established anew or abrogated, as provided in this Act.

Sec. 7. Each Board of Supervisors of this State, when fixing and establishing, or fixing and establishing anew, or abolishing any previously established water rates, as hereinbefore provided, shall cause a record to be made thereof in the records of such Board, and cause the same to be published or posted in the manner and for the time required for the publication or posting of said petitions and notices.

Sec. 8. Any and all persons, companies, associations, or corporations, furnishing for sale, rental, or distribution, any appropriated waters to the inhabitants of any county or counties of this State (other than to the inhabitants of any city, city and county, or town, therein), shall so sell, rent, or distribute such waters at rates not exceeding the established rates fixed and regulated therefor by the Boards of Supervisors of such counties, or as fixed and established by such person, company, association, or corporation, as provided in this Act.

Sec. 9. If any person, company, association, or corporation, whose water rates for any county of this State have been fixed and regulated by a Board of Supervisors, as in this Act provided, and while such rates are in force, shall collect for any appropriated water furnished to any inhabitant of such county water rates in excess of such established rates, shall be liable, in an action by any such inhabitant so aggrieved, to a recovery of the whole rate so collected, together with actual damages sustained by such inhabitant, with costs of suit.

Sec. 10. Every person, company, association, and corporation, having in any county in the State (other than in any city, city and county, or town, therein) appropriated waters for sale, rental, or distribution, to the inhabitants of such county, upon demand therefor, and tender in money, of such established water rates, shall be obliged to sell, rent, or distribute such water to such inhabitants at the established rates regulated and fixed therefor, as in this Act provided, whether so fixed by the Board of Supervisors or otherwise, to the extent of the actual supply of such appropriated waters of such person, company, association, or corporation, for such purposes. If any person, company, association, or corporation, having water for such use, shall refuse compliance with such demand, or shall neglect, for the period of five days after such demand, to comply therewith to the extent of his or its reasonable ability so to do, shall be liable in damages to the extent of the actual injury sustained by the person or party making such demand and tender, to be recovered, with costs.

Sec. 11. Whenever any person, company, association, or corporation, shall have acquired the right to appropriated water, or shall have acquired the right to appropriate such water in this State, such person, company, association, or corporation may proceed to condemn the lands and premises necessary to such right of way, under the provisions of title seven, of part third, of the Code of Civil Procedure of this State, and amendments made and to be made thereto, and all the provisions of said

Code, so far as the same can be made applicable, relating to the condemnation and taking of property for public uses, shall be applicable to the provisions of this Act.

Sec. 12. This Act shall take effect and be in force from and after its passage.

SAN JOAQUIN AND KINGS RIVER CANAL AND IRRIGATION COMPANY *v.* COUNTY OF STANISLAUS, IN THE STATE OF CALIFORNIA.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF CALIFORNIA.

No. 303. Argued March 18, 1914.—Decided April 27, 1914.

As the franchise involved in this case provides that the rates for supplying water may be fixed by a public body but so that the returns shall not be less than a specified per cent. on the value of all the property actually used and useful to the appropriation and furnishing of the water, the value of the water rights owned by the company must be taken into account in establishing such rates.

A party may wait until after a law is passed or a regulation is made which affects his interests and then stand upon his constitutional

rights; and so *held* that a public utility corporation may attack a rate as confiscatory after it has been made, although it offered no evidence as to the value of its property and of the service rendered before the governing body establishing the rate. *Prentis* v. *Atlantic Coast Line*, 211 U. S. 210.

The declaration in the California constitution of 1879 that water appropriated for sale is appropriated for a public use is not to be construed as meaning that the water belongs to the public at large but as meaning that those within reach may obtain it at a reasonable price.

191 Fed. Rep. 875, reversed.

THE facts, which involve the validity under the due process clause of the Fourteenth Amendment of orders establishing water rates of an irrigation company in California, are stated in the opinion.

Mr. Edward F. Treadwell, with whom *Mr. Garret W. McEnerney*, *Mr. Frank H. Short*, *Mr. Aldis B. Browne* and *Mr. Alexander Britton* were on the brief, for appellant.

Mr. James P. Langhorne, with whom *Mr. L. J. Maddux*, *Mr. Parker S. Maddux*, *Mr. Denver S. Church*, *Mr. M. F. McCormick* and *Mr. H. S. Shaffer* were on the brief, for appellees:

Complainant was not entitled to have its alleged water rights valued by the Circuit Court, because it failed to claim before the rate boards that it owned any water rights, or to introduce any evidence of value of water rights, or to refer to them in any manner.

The water rights cost complainant nothing.

Complainant was not entitled to have its alleged water rights valued, because it diverted the waters from a public stream for public use, without cost to it for such waters.

The contracts under which complainant furnishes water to Miller & Lux, its controlling stockholder, at less than the county rates complained of were not made in consid-

eration of the conveyance by Miller & Lux to complainant of any riparian or other water right.

The contract under which complainant furnishes Miller & Lux free water for 20,000 acres of pasture land was not made in consideration of any water right.

Even should the value of the alleged water right be included, yet complainant should not recover and the bill of complaint was properly dismissed since complainant donates 25.13 per cent of its receivable revenues under the rates complained of to Miller & Lux, its controlling stockholder, under its discriminatory rate contracts with Miller & Lux, and hence complainant has no standing in court because the court should only enforce the constitutional guaranties as to income actually receivable by complainant under the rates complained of.

Complainant does not own the water right.

Irrespective of whether or not complainant paid anything for its alleged water rights, it is not entitled to have them valued in a proceeding to fix rates, because under the constitution of the State of California it has dedicated its waters and water rights to a public use. It is the mere purveyor or carrier of the water for public use. The public served by complainant is the owner of the water rights.

Complainant is not entitled to have its alleged water rights valued as part of its franchise.

Complainant is not entitled to have its alleged water rights valued as increasing the value of its tangible properties; nor is complainant entitled to have its alleged water rights valued as part of its "going concern."

Complainant introduced no evidence of the value of "going concern" or of "good-will."

Complainant has a monopoly, and hence is not entitled to any valuation of "going concern," or "good-will."

The master and Circuit Court did not err in their valuation of the plant or in disallowing alleged appreciation value. Appreciation was offset by the proved depreciation.

Complainant has not come into court with clean hands.

The total of the valuations of complainant's properties made by the County Boards of Supervisors is not the total valuation of complainant's plant, but is the total of the valuations that the board respectively made of those portions of the plant, both within and without the county, that were useful to the counties respectively.

In support of these contentions, see *Anderson* v. *Bassman*, 140 Fed. Rep. 14; *Atchison* v. *Peterson*, 20 Wall. 514; *Balfour* v. *Fresno Irr. Co.*, 109 California, 221; *Basey* v. *Gallagher*, 20 Wall. 682; *Boise City I. & L. Co.* v. *Clark*, 131 Fed. Rep. 414; *Clarke* v. *White*, 12 Pet. 299; *Clyne* v. *Water Co.*, 100 California, 310; *Contra Costa W. Co.* v. *Oakland*, 159 California, 323; *Creath* v. *Sims*, 5 How. 192; *Duckworth* v. *Watsonville W. Co.*, 150 California, 530; *Fresno Irr. Co.* v. *Rowell*, 80 California, 114; *Fresno Irr. Co.* v. *Dunbar*, 80 California, 530; *Fresno Canal Co.* v. *Park*, 129 California, 437; *Galloway* v. *Finley*, 12 Pet. 297; *Home T. & T. Co.* v. *Los Angeles*, 211 U. S. 265; *Imperial Water Co.* v. *Halobird*, 197 Fed. Rep. 4; *Kitchen* v. *Rayburn*, 19 Wall. 518; *Knoxville* v. *Water Co.*, 212 U. S. 1; *Lanning* v. *Osborne*, 76 Fed. Rep. 319; *Lassen Irr. Co.* v. *Leavitt*, 157 California, 94; *Leavitt* v. *Lassen Irr. Co.*, 157 California, 82; *Manhattan &c.* v. *Ward*, 108 U. S. 218; *Merrill* v. *Southside Irr. Co.*, 112 California, 426; *McCrary* v. *Beaudry*, 67 California, 120; *McDonald* v. *Bear River Co.*, 13 California, 220; *New York* v. *Pine*, 185 U. S. 103; *Osborne* v. *San Diego Land Co.*, 178 U. S. 22; *People* v. *Stephens*, 62 California, 233; *People* v. *Elk River M. & L. Co.*, 107 California, 221; *Price* v. *Irrigating Co.*, 56 California, 431; *Roberts* v. *Nor. Pac. R. R. Co.*, 158 U. S. 13; *San Diego Flume Co.* v. *Souther*, 90 Fed. Rep. 164; 104 Fed. Rep. 707; *San Diego Flume Co.* v. *Chase*, 87 California, 561; *San Diego Co.* v. *National City*, 74 Fed. Rep. 79; *S. C.*, 174 U. S. 739; *San Diego W. Co.* v. *San Diego*, 118 California, 556; *Stanislaus* v. *San Joaquin R. R. & I. Co.*, 192 U. S.

201; *Stanislaus W. Co.* v. *Bachman*, 152 California, 716; *Souther* v. *San Diego F. Co.*, 112 Fed. Rep. 228; *Thayer* v. *Cal. Dev. Co.*, 164 California, 117; *Tyndale Palmer* v. *Southern Water Co.*, No. 418 Cal. R. Com.; *Watterson* v. *Saldunbehere*, 101 California, 107, 112; Weil on Water Rights, § 478; *Wheeler* v. *Northern Irr. Co.*, 10 Colorado, 298; *Wheeler* v. *Sage*, 1 Wall. 518; *Wilterding* v. *Green*, 45 Pac. Rep. 134; *Willcox* v. *Con. Gas Co.*, 212 U. S. 19; *Wyatt* v. *Lorimer*, 18 Colorado, 298.

MR. JUSTICE HOLMES delivered the opinion of the court.

This is a bill to restrain the enforcement of orders passed by the Boards of Supervisors of the three defendant Counties, Stanislaus, Fresno and Merced, establishing water rates to be charged by the plaintiff, the appellant; the ground of the bill being that the orders deprive the plaintiff of its property without due process of law. By a statute of March 12, 1885, the Boards are authorized to fix these rates for their several Counties, but so that the returns to the parties furnishing the water shall be not less than six per cent. upon the value of the 'canals, ditches, flumes, chutes, and all other property actually used and useful to the appropriation and furnishing of such water.' The rates when fixed are binding for one year and until established anew or abrogated. The bill concerns rates fixed in 1907, and the question before the court has been narrowed to a single issue. If the plaintiff is entitled to six per cent. upon its tangible property alone it is agreed that the orders must stand. But if the plaintiff has water rights that are to be taken into account, the rates fixed will fall short of giving it what it is entitled to and must be set aside. The Circuit Court dismissed the bill, 191 Fed. Rep. 875, and on this appeal figures are immaterial, the only question being whether the principle adopted is right.

It was suggested to be sure at the argument that it does not appear that the plaintiff offered any evidence as to water rights at the hearing before the Supervisors, and therefore that it ought not to be allowed to complain now that nothing was allowed for them. But this evidently is an afterthought. In general, a party may wait until a law is passed or regulation is made and then insist upon his constitutional rights. *Prentis* v. *Atlantic Coast Line Co.*, 211 U. S. 210, 227, 229. This we understand to be the view of the California courts as to these very boards. *Spring Valley Water Works* v. *San Francisco*, 82 California, 286, 315. *San Diego Water Co.* v. *San Diego*, 118 California, 556, 564. Moreover as the defendants contend that the plaintiff is entitled to no compensation for water rights, to offer evidence would have been an idle form.

It is not disputed that the plaintiff has a right as against riparian proprietors to withdraw the water that it distributes through its canals. Whether the right was paid for, as the plaintiff says, or not, it has been confirmed by prescription and is now beyond attack. It is not disputed either that if the plaintiff were the owner of riparian lands to which its water was distributed it would have a property in the water that could not be taken without compensation. But it is said that as the plaintiff appropriates this water to distribution and sale it thereby dedicates it to public use under California law and so loses its private right in the same. It appears to us that when the cases cited for this proposition are pressed to the conclusion reached in the present case they are misapplied. No doubt it is true that such an appropriation and use of the water entitles those within reach of it to demand the use of a reasonable share on payment. It well may be true that if the waters were taken for a superior use by eminent domain those whose lands were irrigated would be compensated for the loss. But even if the rate paid is not to be determined as upon a purchase of water from the plain-

tiff, still, at the lowest, the plaintiff has the sole right to furnish this water, the owner of the irrigated lands cannot get it except through the plaintiff's help, and it would be unjust not to take that fact into account in fixing the rates. We are not called upon to decide what the rate shall be, or even the principle by which it shall be measured. But it is proper to add a few words.

The declaration in the Constitution of 1879 that water appropriated for sale is appropriated to a public use must be taken according to its subject-matter. The use is not by the public at large, like that of the ocean for sailing, but by certain individuals for their private benefit respectively. *Thayer* v. *California Development Co.*, 164 California, 117, 128. *Fallbrook Irrigation District* v. *Bradley*, 164 U. S. 112, 161. The declaration therefore does not necessarily mean more than that the few within reach of the supply may demand it for a reasonable price. The roadbed of a railroad is devoted to a public use in a stricter sense, yet the title of the railroad remains, and the use though it may be demanded, must be paid for. In this case it is said that a part of the water was appropriated before the Constitution went into effect, and that a suit now is pending to condemn more as against a riparian proprietor, for which of course the plaintiff must pay. It seems unreasonable to suppose that the Constitution meant that if a party instead of using the water on his own land, as he may, sees fit to distribute it to others he loses the rights that he has bought or lawfully acquired. Recurring to the fact that in every instance only a few specified individuals get the right to a supply, and that it clearly appears from the latest statement of the Supreme Court of California, *Palmer* v. *Railroad Commission*, January 20, 1914, 47 Cal. Dec., 201, that the water when appropriated is private property, it is unreasonable to suppose that the constitutional declaration meant to compel a gift from the former owner to the users and that in

dealing with water 'appropriated for sale' it meant that there should be nothing to sell. See *San Diego Water Co.* v. *San Diego*, 118 California, 556, 567. *Fresno Canal & Irrigation Co.* v. *Park*, 129 California, 437, 443 *et seq.* *Stanislaus Water Co.* v. *Bachman*, 152 California, 716. *Leavitt* v. *Lassen Irrigation Co.*, 157 California, 82.

Decree reversed.

MR. JUSTICE PITNEY did not sit in this case.